

ILLUSTRATIONS
OF
BRITISH ORNITHOLOGY.

BY
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NATURAL HISTORY SOCIETY, &c

WATER BIRDS

EDINBURGH:
PRINTED FOR THE PROPRIETOR, AND PUBLISHED BY
W. H. LIZARS, EDINBURGH,
LONGMAN, REES, ORME, BROWN, GREEN AND LONGMAN,
LONDON, AND W. CURRY JUN & CO. DUBLIN

MDCCCXXXIII

EDINBURGH:
PRINTED BY NEILL & CO. OLD FISHMARKET.

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SYNOPTICAL TABLE

OF

BRITISH WATER-BIRDS.

ABBREVIATIONS.

I. INDIGENOUS.

P. V. PERIODICAL VISITANT.

O. V. OCCASIONAL VISITANT.

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
4	1	2	1	Common Crane,	<i>Grus cinerea.</i>	O. V.
			2	Common Heron,	<i>Ardea cinerea.</i>	I.
				Crested Purple Heron,	<i>purpurea.</i>	O. V.
				Great White Heron,	<i>alba.</i>	O. V.
				Little Egret Heron,	<i>garzetta.</i>	O. V.
				Buff-backed Heron,	<i>russata.</i>	O. V.
				Squacco Heron,	<i>ralloides.</i>	O. V.
			3	Common Bittern,	<i>Botaurus stellaris.</i>	I.
				American Bittern,	<i>mokoko.</i>	O. V.
				Little Bittern,	<i>minutus.</i>	O. V.
			4	Common Night-Heron,	<i>Nycticorax europæus.</i>	O. V.
3		Cayenne Night-Heron,	<i>Cayensis.</i>	O. V.
			5	White or Common Stork,	<i>Ciconia alba.</i>	O. V.
				Black Stork,	<i>nigra.</i>	O. V.
			6	White Spoonbill,	<i>Platalca leucorodia.</i>	O. V.
			7	Glossy Ibis,	<i>Ibis falcinellus.</i>	O. V.
			8	Common Curlew,	<i>Numenius arquata.</i>	I.
				Whimbrel Curlew,	<i>Phæopus.</i>	I.
			9	Dusky Sandpiper,	<i>Totanus fuscus.</i>	O. V.
				Redshank Sandpiper,	<i>calidris.</i>	I.
				Greenshank Sandpiper,	<i>ochropus.</i>	O. V.
				Wood Sandpiper,	<i>Glareola.</i>	O. V.
10				Common Sandpiper,	<i>Hypoleucos.</i>	P. V.
				Spotted Sandpiper,	<i>macularius.</i>	O. V.
				Greenshank,	<i>glottis.</i>	P. V.
			11	Scooping Avocet,	<i>Recurvirostra Avocetta.</i>	I.
11				Black-tailed Godwit,	<i>Limosa melanura.</i>	I.
				Red Godwit,	<i>rufa.</i>	P. V.

SYNOPTICAL TABLE OF

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
5	1	1	12	Brown Longbeak,	<i>Macroramphus griseus.</i>	O. V.
			13	Woodcock,	<i>Scolopax rusticola.</i>	P. V.
				Great Snipe,	major.	O. V.
				Sabine's Snipe,	Sabini.	O. V.
				Common Snipe,	gallinago.	I.
				Jack Snipe,	gallinula.	P. V.
			14	Ruff,	<i>Machetes pugnax.</i>	P. V.
			15	Knot,	<i>Tringa Canutus.</i>	P. V.
				Buff-breasted <i>Tringa</i> ,	rufescens.	O. V.
				Temminck's <i>Tringa</i> ,	Temminckii.	O. V.
				Minute <i>Tringa</i> ,	minuta.	O. V.
				Purple or Rock <i>Tringa</i> ,	maritima.	P. V.
				Dunlin or Purre,	variabilis.	I.
				Curlew <i>Tringa</i> ,	subarquata.	O. V.
			16	Grey Phalarope,	<i>Phalaropus lobatus.</i>	O. V.
			17	Red Lobefoot,	<i>Lobipes hyperboreus.</i>	P. V.
			18	Common Rail,	<i>Rallus aquaticus.</i>	I.
			19	Meadow or Corn Crake,	<i>Crex pratensis.</i>	P. V.
				Spotted Crake,	Porzana.	P. V.
				Baillon's Crake,	Baillonii.	O. V.
				Little Crake,	pusilla.	O. V.
			20	Common Gallinule,	<i>Gallinula chloropus.</i>	I.
			21	Common Coot,	<i>Fulica atra.</i>	I.
			22	Common Oyster Catcher,	<i>Hamatopus ostralegus.</i>	I.
			23	Common Turnstone,	<i>Streptopelia interpres.</i>	P. V.
			24	Common Sanderling,	<i>Arenaria calidris.</i>	P. V.
			25	Collared Pratincole,	<i>Glareola torquata.</i>	O. V.
			26	Cream-coloured Swiftfoot,	<i>Cursorius isabellinus.</i>	O. V.
			27	Crested or Green Lapwing,	<i>Vanellus cristatus.</i>	I.
			28	Bastard or Grey Plover,	<i>Squatarola cinerea.</i>	P. V.
			29	Golden Plover,	<i>Charadrius plumvialis.</i>	I.
				Dotterel,	morinellus.	P. V.
				Ringed Plover,	Hiaticula.	I.
				Kentish Plover,	Cantianus.	P. V.
			30	Black-winged Stilt,	<i>Himantopus melanopterus.</i>	O. V.
			31	Common Thick-Knee,	<i>Edicnemus crepitans.</i>	P. V.
			32	Grey-lag Wild Goose,	<i>Anser palustris.</i>	P. V.
				Bean Goose,	ferus.	P. V.
				White-fronted Wild Goose,	Erythropus.	P. V.
				Bernicle or Clake Goose,	Bernicla.	P. V.
				Brent Goose,	Brenta.	P. V.
				Red-breasted Goose,	ruficollis.	O. V.
			2	33 Whistling Swan,	<i>Cygnus ferus.</i>	P. V.
				Bewick's Swan,	Bewickii.	P. V.
			34	Common Shieldrake,	<i>Tadorna vulpanser.</i>	I.
				Ruddy Shieldrake,	rutila.	O. V.
			35	Common Shoveller,	<i>Spathulea clypeata.</i>	I.
			36	Common Gadwall,	<i>Chauliodus strepera.</i>	P. V.
			37	Common Wild Duck,	<i>Anas boschas.</i>	I.
			38	Common Pintail,	<i>Querquedula acuta.</i>	P. V.

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
				Common Teal,	<i>Querquedula Crecca.</i>	I.
				Gargany Teal,	Circia.	P. V.
				Bimaculated Teal,	Gloscitans.	O. V.
			39	Common Wigeon,	<i>Mareca Penelope.</i>	P. V.
			40	Black Scoter,	<i>Oidemia nigra.</i>	P. V.
				Velvet Scoter,	fusca.	P. V.
				Surf Scoter,	perspicillata.	O. V.
			41	Common Eider,	<i>Somateria mollissima.</i>	I.
				King Eider,	spectabilis.	O. V.
			42	Red-headed Pochard,	<i>Fuligula ferina.</i>	P. V.
				Red-crested Pochard,	rufina.	O. V.
				Nyroca Pochard,	Nyroca.	O. V.
				Scaup Pochard,	marila.	P. V.
				Tufted Pochard,	cristata.	P. V.
				Western Pochard,	dispar.	O. V.
			43	Long-tailed Hareld,	<i>Harelda glacialis.</i>	P. V.
			44	Common Golden-eye	<i>Clangula vulgaris.</i>	P. V.
				Garrot,		
				Harlequin Garrot,	Histrionica.	O. V.
			5	Gooseander,	<i>Mergus merganser.</i>	P. V.
				Red-breasted Merganser,	serrator.	I.
				Hooded Merganser,	cucullatus.	O. V.
				Smew or White Nun,	albellus.	P. V.
			2 ...	46 Red-necked Grebe,	<i>Podiceps rubricollis.</i>	P. V.
				Crested Grebe,	cristatus.	I.
				Horned Grebe,	cornutus.	I.
				Eared Grebe,	auritus.	I.
				Little Grebe,	minor.	I.
			47	Northern Diver,	<i>Colymbus glacialis.</i>	P. V.
				Black-throated Diver,	arcticus.	I.
				Red-throated Diver,	septentrionalis.	I.
			3	48 Foolish Guillemot,	<i>Uria Troile.</i>	P. V.
				Black Guillemot,	Grylle.	I.
				49 Common Rotch,	<i>Mergulus melanoleucos.</i>	O. V.
			50	Great Auk,	<i>Alca impennis.</i>	O. V.
				Razor-bill Auk,	Torda.	P. V.
			51	Common Puffin,	<i>Fratereula arctica.</i>	P. V.
			4	52 Common Cormorant,	<i>Phalacrocorax Carbo.</i>	I.
				Crested Cormorant,	cristatus.	I.
			53	Solan Gannet,	<i>Sula Bassana.</i>	P. V.
			5	54 Caspian Tern,	<i>Sterna Caspia.</i>	O. V.
				Sandwich Tern,	Boysii.	P. V.
				Common Tern,	Hirundo.	P. V.
				Roscate Tern,	Dougallia.	P. V.
				Arctic Tern,	arctica.	P. V.
				Lesser Tern,	minuta.	P. V.
				Black Tern,	nigra.	P. V.
				Gull-billed Tern,	Anglica.	O. V.
			55	Little Gull,	<i>Larus minutus.</i>	O. V.
				Black-headed Gull,	ridibundus.	I.

SYNOPTICAL TABLE, &c.

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
				Common Gull, Kittiwake, Ivory Gull, Glaucous Gull, Iceland Gull, Herring Gull, Great Black-backed Gull, Lesser Black-backed Gull,	<i>Larus Canus.</i> <i>Rissa.</i> <i>eburneus.</i> <i>glaucus.</i> <i>Islandicus.</i> <i>argentatus.</i> <i>marinus.</i> <i>fuscus.</i>	I. P. V. O. V. O. V. O. V. I. I. I.
			56	Common Skua, Pomarine Skua, Arctic Skua,	<i>Cataractes vulgaris.</i> <i>Pomarinus.</i> <i>parasiticus.</i>	P. V. O. V. P. V.
			57	Fulmar Petrel,	<i>Procellaria glacialis.</i>	P. V.
			58	Cinereous Shearwater, Mank's Shearwater,	<i>Puffinus cinereus.</i> <i>Anglorum.</i>	O. V. P. V.
			59	Common Storm Petrel, Fork-tail Storm Petrel,	<i>Thalassidroma Pelagica.</i> <i>Bullockii.</i>	I. I.

ILLUSTRATIONS
OF
BRITISH ORNITHOLOGY.

ORDER IV.
GRALLATORES—WADERS.

IN the system so ably developed by Mr VIGORS, in his Treatise on the Affinities which connect the Orders and Families of Birds, this constitutes his fourth Order, being analogous to the *Grallæ* of LATHAM and others, and holding the intermediate station between the *Rasores* or Gallinaceous Birds, and the *Natatores* or true Aquatics. In addition to the various genera of the order *Grallæ* of other systems, which was placed at the head of the second great Division or *Aves Aquatica*, it contains some of the genera arranged in the Order *Pinnatipèdes* of LATHAM, as *Fulica*, *Phalaropus*, &c. and also others which, from the development of the membrane connecting the toes, had been included amongst the *Palmipèdes* or Swimmers, but whose real affinities clearly point them out as more intimately connected with the members of this Order; such are the Genera *Phaenicopterus*, *Recurvirostra*, &c. The five families into which it may be divided, according to the quinary system (placing

those considered most typical in the centre, in accordance with the views of Mr VIGORS), are the *Gruidæ*, *Ardeæ*, *Scolopacidæ*, *Rallidæ*, and *Charadriadæ*, of which the *Ardeæ* and *Scolopacidæ* are the typical or normal groups, as partaking most equally of the advantages of both elements. Of the other three or aberrant Divisions, the *Gruidæ* and *Charadriadæ*, placed at the extremes of the Order, are more attached to the land in their habits, and serve not only to connect this with the preceding Order of *Rasores* or Gallinaceous Birds, but to support that succession of affinities which prevails within the circle of the order itself; while the third, or *Rallidæ*, deviating in form from the other groups, and exhibiting in many respects a close approach to birds more decidedly aquatic, serves as a connecting link between the present order, and the succeeding one of *Natatores*.

FAMILY I.—GRUIDÆ.

Many of the birds of this family were formerly comprised in the genus *Ardea* of LINNÆUS, but they differ from the remainder of that group not only in the form of the bill and feet (the first of which is thicker and more obtuse at the end, and the latter usually much shorter than in the true *Ardeæ*), but a marked and considerable difference exists in their habits and manners, which are nearer allied to those of the land birds, and their food, instead of being entirely animal, and derived from the water, is in a great measure vegetable. Their plumage and general carriage also indicate a near alliance with some of the *Struthionidæ* of the preceding order, through which the chain of affinities connecting the present order with the more typical gallinaceous birds, is supported. In addition to the recently instituted genera *Anthropoides*, the type of which is the Numidian Crane (*Ardea Virgo* of LINN.) ; *Balearica*, represented by the Crowned Crane (*Ardea Pavonina* of LINN.) ; and *Grus*, of which the *Ardea*

Grus of LINNEUS may be considered typical ; this family also contains the genus *Psophia*, closely connected with *Anthropoides* in the form and shortness of the bill, and which also, in plumage and other particulars, indicates its affinity to the *Struthionidæ* ; and the genus *Cariama* of BRISSON (*Dicholophus* of ILLIGER) also appears to be in its natural situation in this family ; and it is through some of the members of this group that a more immediate link with the *Charadriadæ* (which meet the present family at the corresponding extreme of the order) is effected.

GENUS GRUS. CRANE.

GENERIC CHARACTERS.

Bill longer than the head, straight, strong, laterally compressed, the tip convexo-conical, pointed. Mandibles of equal length and height ; culmen, from the base to one-half of the length of the bill, flat and indistinct, from thence to the tip rounded ; nasal furrow reaching rather beyond the middle of the bill, broad and deep. Tomia straight, parallel, smooth, except near the tip, where they are slightly and finely serrated. Ascending angle of the lower mandible with a rounded culmen.

Nostrils placed horizontally in the anterior part of the furrow, large, concave, and pervious, posteriorly closed by the membrane.

Tongue broad, fleshy, and sharp-pointed.

Legs long, with great part of the tibia naked. Feet four-toed ; toes strong and rather short, the middle one about one-third the length of the tarsus, and joined to the exterior by a membrane reaching almost as far as the second phalange ; the interior one nearly free. Hind toe short, dependent, articulated upon the tarsus, above the plane of the others. Claws short, strong, sharp, falcated, and entire. Front of the tarsus and toes scutellated ; under part of the toes roughly reticulated.

Tail rather short, and consisting of twelve feathers.

Wings rounded; the first quill shorter than the second; the third the longest of all. In plumage, the head more or less naked, or thinly clad with bristles. Upper part of the neck, with the feathers linear and acuminate. The rest of the plumage close set. Secondary quills, nearest the back, elongated, dependent, arched, frequently with webs open and distinct.

The genus *Grus*, as now restricted, contains several species, all birds of large size, inhabitants of extensive marshy plains, where they subsist upon vegetables, grains, seeds, worms, and reptiles. Their habits are more those of land birds than any of the succeeding family *Ardeidae*, to which, however, they are nearly allied, forming a connecting link; their plumage and appearance at the same time indicating their connexion with the *Struthionidae* of the rasorial order. Of the various known species, only one is a native of Europe, viz. the *Grus cinerea*, or Common Crane, which at one time appears to have been common in Britain, but is now only found as a rare visitant. They are all birds of migratory habits, retiring, from whatever division of the globe they happen to belong, to more northerly or colder regions during the summer, or period of reproduction. In most of the species of this genus, as well as in *Anthropoides*, the trachea of the male is of various construction, making several convolutions, previous to its entrance within the thorax.

COMMON CRANE.

GRUS CINEREA, Bechst.

PLATE I.

Grus cinerea, Bechst. Naturg. Deut. 4. p. 103.—Temm. Man. d'Ornith. v. 2. p. 557.—Steph. Shaw's Zool. v. 11. 524. pl. 40.—Wagler, Syst. Av. sp. 9. Ardea Grus, Linn. Syst. 1. p. 234. 4.—Briss. 5. p. 374. 6. t. 33.—Raii Syn. p. 95. A. 1.
La Grue, Buff. Ois. v. 7. p. 287. t. 14.
Grue cendrée, Temm. Man. d'Ornith. 2. p. 557.
Aschgrauer Kranick, Meyer, Taschenb. Deut. 2. p. 350.

Common Crane, *Penn. Br. Zool.* 2. App. 629. t. 6.—*Arct. Zool.* 2. p. 453. A.
—*Will.* (Angl.) 274.—*Lath. Syn.* 5. p. 50. 5.—*Mont. Ornith. Dict.*—*Id.*
Sup.—*Lath. Syn. Sup.* 2. 298. 2.—*Bewick's Br. Birds*, 2. 29.—*Shaw's*
Zool. 11. p. 524. pl. 40.

IN earlier times, when the country was not so well peopled, and vast tracts of land remained uninclosed, this majestic and elegant bird (if we are to credit the accounts transmitted to us by the ornithologists of those days) appears to have visited Britain with great regularity during the periods of its migrations, most probably during its summer or polar movement (though RAY mentions winter visits), as ALDROVANDUS speaks of their breeding in the fens and marshes of Cambridgeshire. This fact is corroborated by WILLOUGHBY, who, in enumerating the statutes for the preservation of wild fowl, quotes one of them as imposing a penalty of twenty pence upon any one who shall take away the egg of a Crane or Bustard. As enclosures became more frequent, and commons and fens, the appropriate haunts of these birds for nidification, were drained, the Crane, with several other species (as the *Bustard*, *Ædicneme*, &c.) seem rapidly to have decreased in numbers, and by degrees to have deserted the island, as no longer affording them either security, or the peculiarities of soil and situation necessary to their economy. Accordingly Mr PENNANT, who wrote upwards of fifty years ago, mentions the Crane as a bird at that time almost unknown, even in those districts where it had, at an earlier period, been represented as quite common; and he instances a single individual killed in 1773, as the only one that had been seen in England during his time. It still continues equally rare, and appears to have permanently changed the line of its migrations, for (in addition to the above mentioned instance by PENNANT) I can only cite a small flock that visited Zetland during the harvest of 1807, as recorded by MONTAGU and the Rev. Dr FLEMING, out of which one was shot*. These circumstances, therefore, only entitle it to

* Since writing the above, I have received information that a Crane was killed in Oxfordshire, in December 1830.

Rare visitant. rank in our Fauna, at the present day, as a very rare visitant. The Crane, in its contour and gait, bears a considerable resemblance to some of the *Struthionidæ*; and we are immediately reminded of the Ostrich, by the long flowing plumes that overhang the tail. Through this and other families its affinity to the *Rasores* is readily traced. In its internal conformation it also differs very essentially from the more typical families of the *Grallatores*, and its strong and muscular stomach indicates a different general economy from that of the members of the succeeding family of *Ardeadæ*, in which it was included by former authors. It is gregarious, and usually makes its distant aerial voyages in considerable bodies, which fly at a great elevation, uttering during their progress loud cries, which may be distinctly heard even when the birds themselves are far beyond the reach of sight; and these flights are very frequently performed in the night time. Its equatorial migrations extend to India, Egypt, and other warm climates of Asia and Africa; but in summer it retires to the northern and eastern parts of Europe to breed. The nest is placed amongst the long herbage of marshy tracts, and sometimes (according to TEMMINCK) upon ruins, or the roofs of houses. Its eggs, two in number, are of a pale bluish-green colour, blotched with brown. It frequents extensive plains, particularly open grounds under cultivation, and feeds much upon newly sown corn and other seeds; in this respect indicating a close connexion with birds of the gallinaceous or *rasorial* order. It, however, readily devours both worms and frogs and other reptiles, the more appropriate food of the *Ardeadæ*, to which family its long slender neck, lengthened tarsi, form of wings, &c. show a near approach. The Crane, as well as other members of the *Gruidæ* (as genus *Anthropoides*, &c.) exhibits a remarkable structure of the trachea or windpipe. In this bird, instead of going directly into the thorax, it enters a large cavity formed in the keel of the sternum, and is there doubly reflected; the first duplicature reaching the full ex-

Nest, &c.

Food.

tent of the excavation, the second about midway. After its return from this second flexure, it bends upwards, and passing over the ridge of the sternum by the left clavicle, there enters the thorax, and is attached to the lungs by its bronchial tubes *. The female possesses the same formation as the male, but the duplicatures are not so considerable, nor do they extend so far backwards into the cavity of the sternum.

PLATE 1. Represents the Crane of about one-half the size of nature, from a very fine specimen in the splendid collection of Sir WILLIAM JARDINE, Bart.

The bill is black, with the tip of a straw-yellow colour; the nostrils pervious and oblong. The forehead and space between the bill and eyes, bluish black, garnished with stiff bristly hairs. The crown is naked, with the skin of a tile-red colour. The occiput, the throat, and fore part of the neck, deep broccoli-brown; the hinder part, and sides of the neck, greyish-white. The upper and under parts of the body of a deep ash-grey. The primary quills and greater coverts black; some of the secondaries and the tertials long and arched; the latter with decomposed barbs of a blackish-brown colour, and forming elegant plumes, something similar to those of the Ostrich, which usually droop over the tail, but can be erected at pleasure. The legs and feet are black.

General
description.

The plumage of both sexes is similar, though the colours of the male bird are perhaps generally of a finer and brighter tint than those of the female. The young do not acquire their perfect plumage till after the second moulting, previous to which the crown of the head is covered with downy feathers, and they want the deep chocolate-brown upon the occiput and throat.

* For a further description, see Dr LATHAM'S Essay on the Trachea of Birds, in the fourth volume of the Linnean Transactions.

FAMILY II.—ARDEADÆ.

As I have previously observed, those groups which appear to partake most equally of the advantages to be derived from both land and water, may properly be considered as the typical families of the *Grallatores*. The Ardeadæ, then, naturally come under that class; as birds which inhabit the land, or at least do not possess the essential qualities of water-fowl (such as the powers of swimming and diving), but yet derive their support almost entirely from the watery element. The characteristics of the family (at least of the most typical genera) are legs of great length, enabling them to wade deep into the water in search of their prey, and for the capture of which is added a great extension of neck, with a long sharp-pointed bill, acting as a spear to transfix it. Modifications, however, of these characters, of course exist in the forms which lead to and connect this with the other families of the order, and with the other orders of the class, supporting that succession of affinities that prevails, not only in the feathered race, but throughout the whole system of animated nature.

The food of the Ardeadæ is almost entirely animal, consisting of fish, reptiles, worms, and insects, and sometimes of the smaller *Mammalia*, inhabiting the banks of rivers, or living in marshy districts.

A small portion only of the genera that compose the various families are to be found in the British Islands, as might indeed be expected in so confined a part of the globe. Due allowance must therefore be made for the apparent deficiency of those links that unite birds with characters deviating considerably from each other; as such links are beautifully supplied by the interposition of genera or forms belonging to other climes; and the natural chain of affinities readily and satisfactorily traced.

GENUS ARDEA. HERON.

GENERIC CHARACTERS.

Bill longer than the head, higher than broad,^o straight, compressed, sharp-pointed, of mean strength. Base of both mandibles covered with a delicate cere. Mandibles of nearly equal length; maxilla laterally sulcated for about two-thirds of its length; culmen rounded; tip drawn to a point, and very slightly inclined, emarginated; tomia of maxilla equal, serrated towards the tip. Mandibles of equal depth, tomia drawn inwards, very sharp, and serrated near the point. Angle of maxilla with the culmen compressed, more or less ascending. Lores naked.

Nostrils at a short distance from the base of the bill, and placed in the lateral furrow; longitudinal and narrow; pervious, and partly covered with a naked membrane.

Tongue reaching to about half the length of the bill, narrow, membranous, and sharp-pointed. Feet with the tarsus considerably longer than the middle toe; toes four, rather long, slender, congruous, all unequal; the middle one connected, as far as the first phalange, to the exterior by a membrane; interior one nearly free. Hind toe about half the length of the middle one, articulated interiorly upon the same plane, and resting entirely upon the ground. Tibia naked for a considerable space above the tarsal joint. Nails falcate, that of the hind toe the longest of all; that of the middle toe pectinated. Front of the tarsus clypeate; hinder part of the tarsus reticulated. Upper part of the toes scutellated.

Wings ample, rounded; the second and third quills the longest. Tail short and even. Neck covered with short close-set feathers; and, in adults, towards the base of the fore part of the neck, rise long acuminate pendulous feathers. Feathers on the back elongated, silky, linear, or laciniated, with decomposed barbs and barbules.

General plumage loose and open, with barbs slightly adhering.

The genus *Ardea* of the earlier writers was very comprehensive, and contained many birds, which as science advanced, and their natural affinities became better known, it has been found necessary to transfer to other groups, or to form into distinct genera. I have accordingly adopted the views of the first ornithologists of the present day, and restricted the genus to those species which possess all the essential typical characters, as developed in *Ardea herodias*, *cinerea*, *purpurea*, &c., though a slight modification in the species that lead to the succeeding and nearest allied genera is perceptible. The genus, even as now restricted, contains a great many species, which all inhabit marshes and the banks of lakes and rivers, and form a very prominent part of the normal group of the Ardeadæ, in the order *Grallatores*. Their food consists of fish, reptiles, and insects, which their lengthened tarsi and acute serrated bill enable them to capture in the shallower parts of the water. Their habits are solitary, except during the season of reproduction, when they assemble, and breed in large companies; and, when they obey the laws of migration, their journeys are performed in extensive flocks.

Some of the species, that dwell in the colder latitudes, are furnished with a down upon some parts of the body, which appears to act not only as an additional clothing, but as the medium for distributing a peculiar powder over the whole plumage, tending to make it impervious to moisture.

Most of the species are ornamented, in a greater or less degree, with elongated plumes, which arise from the occiput, the lower and fore part of the neck, and the back. In some species, the feathers of the last named part have their barbs long, silky, and decomposed. The occipital plumes are short during the autumn and winter, but become fully developed on the approach of the pairing season. The plumage

of both sexes is similar, that of the male exhibiting only a superior lustre, and pureness of tint. The young of many species differ considerably from the mature birds, which has led to much confusion, and sometimes an unnecessary multiplication of species. Their flight is heavy, with the neck retracted, and resting between the shoulders; and having the legs extended behind, to preserve the balance of the body. Their appetite is voracious, and their digestion powerful and rapid.

COMMON HERON.

ARDEA CINEREA, Lath.

PLATE II.

- Ardea cinerea, Lath.* Ind. Orn. 2. 691. 54.—*Shaw's Zool.* 11. 548.—*Wagler*, Syst. Av. sp. 3.—*Flem.* Br. Anim. 1. 95. 126.
Heron cendré, Temm. Man. d'Ornith. 2. 567.
Ardea major, Linn. Syst. 1. 236. 12.—*Gmel.* Syst. 1. 627. sp. 12.—*Raii* Syn. 98. A. 1.
Ardea cristata, Briss. 5. 396. 2. t. 35.
Le Heron huppé, Buff. Ois. 7. 342. Pl. Enl. 755.
Aschgrauer Rheihcr, Meyer, Taschenb. Deut. 2. p. 332.
Ardea cinerea, Linn. 1. 236. 11.—*Briss.* Orn. 5. 392. 1. } Young of
Le Heron, Buff. Ois. 7. 342. pl. 19. } both sexes.
Crested Heron, Allin. Br. Birds, 1. pl. 67.—*Low's Faun.* Orcad. 77.
Common Heron, Penn. Br. Zool. 2. No. 173.—*Arct. Zool.* 2. No. 343.—
Lath. Syn. 5. 83. 50.—*Mont.* Ornith. Dict.—*Id.* Sup.—*Bewick's Br.*
Birds, 2. 37.—*Lewin's Br. Birds*, 5. pl. 118.—*Shaw's Zool.* 11. 548.—
Flem. Br. Anim. 1. 95.

PROVINCIAL—Heronseugh.

NOTWITHSTANDING the Heron is now so little esteemed, both by the epicure and the sportsman, there is no bird better entitled to claim the protection of the admirers of nature and picturesque scenery, from the striking effect its presence can produce in the solitary haunts in which it delights, and haunts where it is most commonly found. Its form, whether at rest or upon the wing, is interesting, and well adapted to give effect to the landscape, and for this reason it is frequently introduced as a prominent feature in the productions of the pencil. At an earlier period, however, when hawking was

held in great estimation, and was considered the appropriate pastime of the gentry of the land, the Heron, from the excellent sport it afforded by its determined resistance to the Falcon, was regarded as noble game, and penal statutes were enacted 'for its protection; and we find, that to have taken its eggs alone subjected the offender to a mulct of twenty shillings. As an article of luxury, its flesh was also in such repute, as to be deemed little, if at all, inferior to that of the Peacock, a bird whose rarity and costliness confined it to the tables of the great. But indeed the low estimation in which the flesh of the Heron is now held, would seem to be in a great degree the effect of prejudice, or the fashion of taste, as, under proper treatment and good cookery, the Heron, when fat and in fine condition, is but little inferior to some of our most approved wild fowl. In its habits it is solitary, and being a bird of great timidity and watchfulness, is not easily approached within gunshot. When seen, it is usually standing immovable in the shallows of rivers, or pools of water, with its neck bent, and drawn between its shoulders, watching attentively the motions of its finny prey, upon which, when once within reach, it darts with unerring aim, transfixing it by a single stroke of its sharp bill. Its favourite food is fish, and its appetite being very voracious, and the digestive powers exceedingly rapid, it sometimes commits great depredations in fish-ponds, before the evil is discovered. It also devours frogs and other reptiles, and even young water-rats, mice, and other small *Mammalia* are swallowed whole, and with great avidity. The geographical distribution of the species is very extensive, and embraces the greater part of the old world; in some countries it is regularly migratory, but it is a permanent resident in Britain. About the beginning of March, Herons assemble together previous to resorting to their respective breeding stations, or *Heronries*, which are always in the loftiest trees the country may happen to afford. Their nests are large and flat, and many are frequently placed close together upon the same

Food.

Nest, &c.

tree; they are built of sticks, and the interior lined with wool and other soft materials. They lay four or five eggs, of a bluish-green colour, but without lustre. The young, when first hatched, are naked and very unsightly; and it is generally five or six weeks before they are so far fledged as to be able to quit the nest, during which period they are amply supplied with fish and other food by the parent birds, they having frequently to roam to a great distance for it*. When taken young, the Heron may be easily reared, and rendered very tame, and, when domesticated, is a pleasing addition to the other birds frequently kept in gentlemen's grounds, though troublesome to maintain, on account of the peculiarity of its food. But the old birds, when caught, soon die, from obstinately refusing all nourishment. When wounded by the sportsman, and not entirely disabled, the Heron must be approached with caution, as it sets itself in a menacing attitude, and makes a formidable defence, striking directly at the eyes of the dog that unwarily attacks it†.

PLATE 2. Represents a male bird of about two-thirds of the natural size.

The forehead, crown, sides of the head, and throat, the ridge of the wings, the breast and belly, are pure white. The sides, and back part of the neck, pale grey. The front of the neck has a double row of oblong spots of greyish-black. The long plumes which

General
description.

* A curious account of a battle between a colony of Herons and a neighbouring rookery is related by BEWICK, upon the authority of Dr HEYSHAM, to which I refer my reader.

† From the following interesting anecdote, communicated by my worthy friend P. NEILL, Esq. of Canonmills, near Edinburgh, it would seem, that, under certain circumstances, and where favoured by situation, the Heron is not disinclined to breed in a state of domestication. "The Common Heron (a male), which was winged on Coldingham Muir in autumn 1821, when a young bird, and given to me in 1822 by Mr JOHN WILSON of the College, has since resided in my garden at Canonmills, and is now so tame, that he often follows me, expecting a piece of cheese, which he relishes. Four years ago Mr ALLAN of Lauriston sent me a young fe-

spring from the lower part of the neck are white, or greyish-white. The streak over the eyes, and the occipital plumes (which are sometimes six or eight inches in length) are black, as are also the flanks and feathers on each side of the breast. The feathers of the back and the scapulars are pale grey, long, loose, and acuminate. The lesser wing-coverts bluish-grey. The quills greyish-black. The tail deep bluish-grey. The bill king's-yellow; the irides gamboge-yellow. The legs and toes brown, tinged with yellowish-green. The naked part of the tibia yellowish or orange.

The female resembles the male, except that the tints of her plumage are not quite so pure.

The young are without the occipital crest; and the long scapulary feathers that adorn the old birds, as well as

male, which had been taken during a severe storm. She soon associated with the older male. In summer 1828 she laid three or four eggs (I am not sure which), on the top of a wall next to the mill-pond: these all tumbled into the water; for though the birds had carried up a few sticks, they made no proper nest. She then laid one or two on the flower-border below the wall, and close by the box-edging: here some eggs were broken by the birds suddenly starting off when alarmed by strangers walking in the garden. We supplied their place by some bantam eggs, and only one heron egg at last remained. Alas! the poor hen, having strayed to the margin of the mill-pond, was shot by some thoughtless young man with a fowling-piece. The cock continued to sit for several entire days after the death of the hen, but at last tired. He used to sit, when she went off for food. During the whole time of pairing, the cock was very bold, raising his feathers and snapping his bill whenever any one approached." To the foregoing Mr NEILL adds the following curious fact with regard to his male bird, which shews that the Heron is not altogether incapable of swimming, though in its natural or wild state it is seldom obliged to have recourse to this unusual mode of obtaining its prey. "A large old willow tree had fallen down into the pond, and at the extremity, which is partly sunk in the sludge and continues to vegetate, Water-Hens breed. The old cock Heron swims out to the nest and takes the young if he can. He has to swim ten or twelve feet, where the water is between two and three feet deep. His motion through the water is slow, but his carriage stately. I have seen him fell a rat by one blow on the back of the head, when the rat was munching at his dish of fish."

those that hang down from the lower part of the neck, are wanting. The forehead, crown, hinder and lateral parts of the neck, the back, and wing-coverts, are deep grey. The throat, belly, abdomen, and inner part of the thighs, are white. The fore part of the neck is spotted with blackish-grey. The upper mandible is blackish-brown, and the under one greenish-yellow. The lores yellowish-green; the legs and feet grey, or brown, tinged with yellow. The bare part of the tibia greenish-yellow.

CRESTED PURPLE HERON.

ARDEA PURPUREA, Linn.

PLATE III.

- | | |
|---|----------|
| Ardea purpurea, Linn. Syst. 1. 236. 10.—Gmel. Syst. 1. 626.—Lath. Ind. Orn. 2. 697. 72. | } Adult. |
| Ardea Botaurus, Gmel. Syst. 1. 636.—Lath. Ind. Orn. 2. 698. 74. | |
| Ardea rufa, Lath. Ind. Orn. 2. 692. 55. | |
| Botaurus major, Briss. Orn. 5. 455. 28. | |
| Ardea stellaris major, Raii, Syn. 100. 13.—Will. 208. | |
| Grand Butor, Buff. Ois. 7. 422. | |
| Heron pourpré, Temm. Man. d'Ornith. 2. 570. | |
| Purper Reiher, Meyer, Taschenb. Deut. 4. 27. t. 2. | |
| Crested Purple Heron, Lath. Syn. 5. 95. 65.—Shaw's Zool. 11. 556. | |
| Greater Bittern, Lath. Syn. 5. 58. 18. | |
| Greater Speckled or Red Heron, Will. (Angl.) p. 283. | } Young. |
| Rufous Heron, Lath. Syn. 5. 99. 72. | |
| Ardea purpurata, Gmel. Syst. 1. 641.—Lath. Ind. Orn. 2. 698. 75. | |
| Ardea Caspica, Lath. Ind. 2. 698. 73. | |
| Ardea variegata, Lath. Ind. 2. 692. 56. | |
| Heron pourpré, Buff. Ois. 7. 369. | |
| Purple Heron, Lath. Syn. 5. 96. 66. | |
| African Heron, Lath. Syn. Sup. 237.—Mont. Ornith. Dict. | |
| Ardea rubiginosa, Gmel. Syst. 1. 632.—Lath. Ind. 2. 693. 58. | |
| Rusty Crowned Heron, Arct. Zool. 2. No. 358.—Lath. Syn. 5. 87. 53. | |

THIS beautiful Heron stands in the list of our Fauna as a rare visitant; for it appears that, prior to the publication of MONTAGU's Ornithological Dictionary, only two specimens had been recorded as killed in England. Since that time Natural History has made rapid advances, and from having, as a science, been more generally cultivated, has induced a

Rare visitant.

closer investigation into the habitats of species ; and consequently, several stragglers have been announced, which would otherwise have escaped observation. Among others, I may mention that in the month of May 1830, a fine male of this species, that was killed in Norfolk, came into my possession, and its mate into that of Sir WILLIAM JARDINE *. This bird undergoes considerable change, in colours and texture of plumage, in its progress from the young to the adult and perfect state ; and a want of sufficient information, arising probably from a neglect of the narrow investigation which should attend all pursuits in Natural History, has given rise to the long list of synonyms above quoted. By LATHAM alone it has been specifically described under seven different titles, most of them marking the particular change now certified as taking place at the different moultings, in its progress to maturity. Like the *Ardea cinerea*, its geographical distribution extends to the three quarters of the old world. In Europe, it is most abundant in the southern countries, becoming scarce as it approaches to the north. It is, however, well known in Holland, but not to so great a degree as the Common Heron. In Asia, it abounds on the shores of the Caspian Sea, and on the borders of the rivers and lakes of Tartary, and is also an inhabitant of the Philippine Isles. In Africa it is met with in

Nest, &c. Nubia, at the Cape of Good Hope, &c. Its habits are similar to those of *Ardea cinerea*, but a slight difference exists in the form of the feet (the toes being very long and slender, and closely resembling those of the Bittern), which prevents

Food. it from perching with the same ease, and consequently so often on trees, as the other species, and of course from there placing its nest. On the contrary, it builds in the thickest and tallest reeds on the margins of the rivers or lakes it frequents. It is stated to lay three eggs, of a pale bluish-green colour, and not quite so large as those of the Common Heron. It feeds upon fish, frogs, and other reptiles and insects, and

* Since writing the above, I have heard of three other specimens, two killed in Norfolk, and another near to London.

base bluish-grey, and the rest, black. Cere lemon-yellow. Irides clear dark chesnut-brown. Forehead dark chesnut-brown. Crown of the head, and nape of the neck, yellowish-brown, inclining to pale orange-brown; the feathers narrow, distinct, and pointed. Throat and under part of the neck dark umber-brown. Breast and belly dark brown, with a few white feathers intermixed. Inside of the thighs *white*. Vent and under tail-coverts white, having some of the feathers tipped with brown. Back and wing coverts very intense umber-brown. Upper tail-coverts white, some of them being tipped with brown. Tail, for two-thirds of its length, white; the remainder (or end part) blackish-brown. Greater quills very intense brown, or blackish-brown, having their bases white. Secondaries, for two-thirds of their length from the base, white. Tarsus clothed with white feathers. Toes lemon-yellow. Claws black.

GENUS HALIÆETUS, SAVIG. SEA-EAGLE.

GENERIC CHARACTERS.

BILL elongated, strong, straight at the base, curving in a regular arc in advance of the cere to the tip, and forming a deep hook. **Culmen** broad, and rather flattened. **Tonia** of the upper mandible slightly prominent behind the commencement of the hook. **Nostrils** large, transversely placed in the cere, and of a lunated shape. **Wings** ample; the fourth quill-feather the longest. **Legs** having the tarsi half feathered, the front of the naked part scutellated, and the sides and back reticulated. **Toes** divided to their origin; the outer one versatile. **Claws** strong and hooked, grooved

beneath ; the claw of the hind toe larger than that of the inner, which again exceeds that of the middle and outer toes.

This genus, of which our Sea-Eagle (*Falco albicilla*, Auct.) supplies an example, differs from the Ospreys or true fishing Eagles (genus *Pandion*, Savig.) in the form of the bill, and in the claws being grooved, and not rounded beneath ; with that upon the inner toe being much larger and stronger than that of the outer, the contrary of which characterizes the genus *Pandion*. The plumage is also different in texture, being looser, and resembling that of the typical Eagles, and the thighs, instead of a covering of short and thick set feathers, are furnished with long plumes, a circumstance which indicates a difference of economy. The habits of this genus are less predatory, and their boldness is not so great as in the members of the genus *Aquila*, added to which, their aspect altogether approaches nearer to that of the Vultures.

CINEREOUS SEA-EAGLE.

HALIÆTUS ALBICILLA, *Milv.*

PLATES III. and III *.

- Syn. of Adult. { *Falco albicilla*, *Gmel.* Syst. 1. p. 253.—*Lath.* Ind. Ornith. 1. p. 9. 2.—
Fauna Suæc. No. 55.—*Müller*, No. 58. .
Vultur albicilla, *Linn.* Syst. 1. p. 123. 8. .
Aquila albicilla seu *Pygargus*, *Briss.* Ornith. 1. p. 427. 5.—*Will.* Orn.
p. 31.—*Raii*, Syn. p. 7. 5.
Falco albicaudus, *Gmel.* p. 258. sp. 51.
Le Grand Pygargue, *Buff.* Ois. vol. 1. p. 99.
Aigle Pygargue, *Temm.* Man d' Ornith. 1. p. 49. 2d ed.
Fisch-Adler, *Bechst.* Taschen. Deut. v. 1. p. 10. sp. 5.
White-tailed Eagle, *Will.* Angl. p. 61.—*Bewick's Birds*, 1. p. 9.
Cinereous Eagle, *Br. Zool.* 1. No. 45. t. 18.—*Arct. Zool.* 2. p. 214. B.—
Lath. Syn. 1. p. 33. No. 8.—*Id.* Suppl. p. 11.—*Levin's Birds*, 1. t. 4.—
Mont. Ornith. Diet. 1. vol.—*Id.* Suppl.—*Shaw's Zool.* vol. 7. p. 79.—
Don. Br. Birds.
Erne, *Low's Fau. Orcad.* p. 34.

- Falco Ossifragus*, *Linn. Syst.* 1. p. 124. 3.—*Gmel. Syst.* 1. p. 255. 4.—*Lath. Ind. Ornith.* 1. p. 12. 7.—*Raii, Syn.* p. 7. 3.—*Will.* p. 29. t. 1. —*Muller*, No. 60.
Falco Melanæetus, *Gmel.* p. 254. Sp. 2.—*Lath. Ind. Ornith.* 1. p. 10. 3. —*Linn.* 1. p. 124. 2.—*Raii, Syn.* p. 7. 4.—*Will.* p. 30. t. 2.—*Briss.* 1. p. 434. 8.
Aquila Ossifraga, *Briss.* 1. p. 437. 9.
 L'Orfraie, ou Grand Aigle de Mer, *Buff. Ois.* vol. 1. p. 112. t. 3.—*Id.* Pl. Enl. 112. yearling Bird.—*Id.* 415. the figure of one from two to three years old.
 Sea Eagle, *Br. Zool.* 1. No. 44. t. 17.—*Id.* fol. t. 63.—*Zool.* 2. No. 86. A. —*Will.* (Ang.) p. 59. t. 1.—*Lath. Syn.* 1. p. 30.—*Id.* Sup. p. 9.—*Levin's Br. Birds.* 1. t. 1.—*Mont. Ornith. Dict.*—*Id.* Sup.—*Walc.* Syn. 1. t. 2.—*Shaw's Zool.* 7. p. 81.—*Pull. Cat. Dorset.* p. 2.—*Don. Br. Birds.* t. 105.—*Lowe's Fauna Orcad.* p. 32.—*Bewick's Br. Birds.* 1. p. 11.

Syn. of Young.

PROVINCIAL.—Erne or White-tailed Eagle.

THE identity of the *Cinereous* and *Sea Eagle* is now so satisfactorily established, that I have, without any hesitation, brought the synonyms hitherto assigned to the two supposed species under the same head. To many, it may appear singular that this fact should only now be fully ascertained; but when we consider the great impediments to the investigation of the natural history of these birds, arising from the wild and mountainous districts they inhabit, the difficulty of procuring specimens, and the few opportunities afforded, therefore, of watching the progress of the young bird to maturity; the slow advance of our knowledge in regard to this, as well as other facts connected with this branch of science, will rather be a matter of regret than surprise. Many of our ornithological works, also, can only be regarded as compilations from the essays of earlier authors, in which the errors, arising from such deficiency of information as must naturally attend the infancy of a new pursuit, may be expected; and which errors have too often, without any attempt at further scrutiny, been faithfully transcribed.

The similarity in habits and manners, as well as in essential specific characters, between the *Cinereous* and *Sea Eagle*, first led me to suppose that they were of the same species, and that the difference of plumage might only proceed from the respective ages of the individuals, as appears

in many other instances. An opportunity having occurred of watching the progress of the young Sea Eagle from its earliest age, I eagerly availed myself of it, and witnessed the gradual and interesting changes it underwent, till it had finally acquired the plumage of the adult or Cinereous Eagle. During this process, I was happy to find, that my supposition had been anticipated, and the fact ascertained in France, by that eminent naturalist Mons. CUVIER*, as well as by Mons. TEMMINCK.

The Cinereous Eagle is more numerous than the preceding species, and is found in all the northern and mountainous maritime districts of Scotland and Ireland, and in the Orkney and Shetland Isles. It is also of a more roving disposition, and has frequently been killed in England.

MONTAGU† mentions several instances, and adds, that scarcely a year passes without some of these birds being seen in the New Forest in Hampshire. In Northumberland, the Cinereous Eagle has frequently been seen during the winter months. About six years ago, a fine specimen was killed at Chillingham Park, the seat of the Earl of TANKERVILLE; and two more in the winter of the following year, and both of these were in the state indicating immaturity. They appear to have resorted to this place from a facility of obtaining food, which the weak and fallen deer in a hard season liberally present.

In February 1828, two eagles of this species were killed upon the Northumbrian Coast; one near to Scremerstone, and now in the possession of ROBERT WILKIE, Esq. of Ladythorn; the other at Holy Island, and now in my collection, having been kindly presented to me by JOHN DONALDSON, Esq. of Cheswick. They were both immature birds, apparently about two years and a half old, having undergone two moultings. The bird presented to me proved to be a

* CUVIER, Reg. Anim. tom. i. p. 35.; and TEMMINCK, tom. i. p. 49.

† MONTAGU, Ornith. Dict. Supplement, art. *Cinereous Eagle*.

female ; the sex of the other was not ascertained. It is probable, from being both of the same age, and killed within a few miles of each other, that they had belonged to the same eyry, and had continued associated from the time of quitting the nest.

In their native districts, they are generally seen near the sea-shores, or the precipices skirting the margins of inland lakes, as their favourite food consists of fish, which they pounce upon whilst swimming near the surface of the water ; or which they compel the Ospreys, after having captured them, to yield to their superior strength. Aquatic birds also become a frequent prey, as well as fawns and roe-bucks.— They generally breed in the most inaccessible cliffs, and lay but one, or at most two eggs, entirely white, and nearly the size of those of a goose. In my collection, is an egg laid by a bird of this species, after having been kept in a state of confinement for upwards of twenty years. The Cinereous Eagle possesses astonishing capability of enduring the cravings of hunger ; and instances are on record where it has shewn undiminished vigour, after fasting for four or five weeks. I am acquainted with an instance, in which the bird was permitted, through the inattention of its keeper, to be without food for several weeks, till its sufferings were so severe as to excite it to gnaw the flesh from the pinions of its own wings. In defect of living prey, this species readily feeds upon the dead carcasses of sheep and other animals, and is frequently caught in Scotland by the following device : “ A miniature-house, at least the wall part of it, is built on ground frequented by the eagle, and an opening left at the foot of the wall, sufficient for the egress of the bird. To the outside of this opening a bit of strong skeiny (cord) is fixed, with a noose formed on one end, and the other running through the noose. After all this operation is finished, a piece of carrion is thrown into the house, which the eagle finds out, and perches upon. It eats voraciously, and when fully satisfied it never thinks of taking its flight immediately

Food.

Nest, &c.

upwards, unless disturbed, provided it can find any easier way to get out of the house ; for it appears that it cannot readily begin its flight, but in an oblique direction ; consequently it walks deliberately out at the opening left for it, and the *skeiny* being fitly contrived, and placed for the purpose, catches hold of and fairly strangles it." This bird is of powerful form, but not so compact as the *Golden Eagle*. Its aspect is also heavier, and it has not the same alertness and activity. When reposing, it sits with drooping wings, and the feathers of the body ruffled in the manner of the *Vultures*, with which birds, indeed, it was at first classed by LINNÆUS ; a proof of the striking affinity it bears to that family. It is of wide distribution, species being found in all quarters of the globe.

The figure on PLATE 3. represents an adult female of this species, in about two-fifths of the natural size.

General
description.

Adult bird.

Bill large, straight towards the base, colour straw-yellow. Cere wine-yellow. From the base of the bill to the eyes is a species of bluish-coloured skin, thinly covered with black hairs. Irides reddish-brown. Head and neck pale hair-brown, the feathers long, narrow, distinct, and acuminate. Upper parts dark hair-brown ; under parts the same, but deeper in tint. Upper tail-coverts white. Tail white. Quills blackish-brown, the shafts of the feathers pale. Legs feathered a-short way below the knee, colour straw-yellow. The naked part of the Tarsi in front have large scales, or scutellæ. Middle toe with eight large scutellæ ; the outer with five ; and the inner and hind toes with four each. Claws black and strong ; very hooked, and sharp : the middle one with a sharp edged-groove on its inner side.

Young
bird.

PLATE 3*. Represents the young of this species after the second moult, or in that state in which it has been named the *Sea Eagle* (*Falco ossifragus* of authors).

Bill bluish-black, paler towards the base. Cere wax-yellow. Irides pale chesnut-brown. Head and neck dark-brown, the tips of the feathers rather paler, the roots white. Upper parts reddish-brown, the feathers paler towards the base, and having the whole of their shafts dark. Under parts brown, of different shades, intermixed with a few white feathers. Quills brownish-black. Tail marbled with shades of hair and clove-brown, and darkest towards the end.

GENUS PANDION, SAVIG. OSPREY.

GENERIC CHARACTERS.

BILL rather short, strong, the culmen rounded, and broad; tomia of the upper mandible nearly straight, as far as the hooked tip. Nostrils oblong-oval, slightly oblique, and extending nearly the whole length of the cere. Wings long; the second and third quill-feathers the longest in each wing. Legs muscular and strong; the tarsi short, and covered with prominent retrinulated scales. Feet having the toes free, and nearly of equal length; the outer toe reversible, and all of them armed with strong, much curved, and very sharp claws, of which the under part is *rounded*. Claw of the exterior toe longer than that of the middle and inner ones. Under surface of the toes very rough, with small sharp-pointed scales.

The rounded under surface of the claws of this group is of itself a sufficient characteristic to separate it from the preceding, and other nearly allied genera; but in addition, they possess other distinctions in the form of the bill and legs, as well as in habits and general economy, of consequence enough to warrant such a removal. The Common Osprey (*Falco Haliæctus*, LINN.) stands as the type of the present genus, which contains two or three other species, one of which *Pand. Icthyæctus* of Dr HORSFIELD, approximates, in some respects, very closely to the genus *Haliæctus*, and forms the link of

connection between the two. The Ospreys are strictly piscivorous. They capture their prey by pouncing it when swimming near the surface, and are so fastidious as generally to refuse it, however fresh, unless taken alive by themselves. They possess a form and structure admirably adapted for the mode of living they pursue, their body being long and narrow, yet sufficiently compact and muscular; their limbs powerful; and feet furnished with toes and claws of such size and strength as to embrace a considerable surface, and take a very firm grasp of their slippery prey, and at the same time so constituted as to allow of that grasp being quickly withdrawn in case of danger, or from having attacked a fish too unwieldy to be raised from the water. Their plumage is also different in texture from that of the other Aquiline groups, being firmer and more closely set, particularly upon the lower parts of the body; and the thighs are destitute of the long plumes that adorn the rest of the Falconidae.

OSPREY.

PANDION HALIAETUS, Savig.

PLATE IV.

- Balbusardis Haliaetus, *Flem.* Brit. Anim. 1. 51. No. 15.
 Falco Haliaetus, *Linn.* 1. p. 129. 26.—Fauna Succ. No. 63.—*Lath.* Ind. Ornith. 1. p. 17. 30.—*Gmel.* Syst. 1. p. 263.—*Muller*, No. 66.—*Briss.* 1. p. 440. 10. t. 34.
 Aquila Haliaetus, *Meyer*, Tasschenb. Deut. 1. p. 17.
 Falco arundinaceus, *Gmel.* Syst. 1. p. 263. var. B. a female in moult.
 Morphnos seu Clanga, *Raii*, Syn. p. 7. 6.—*Will.* Ang. p. 63.
 Le Balbusard, *Buff.* Ois. v. 1. p. 103. t. 2.—*Id.* Pl. Enl. 414.
 Aigle Balbusard, *Tremm.* Man. d'Ornith. 1. p. 47. 2d.
 Flusadler, *Bechst.* Tasschenb. Deut. v. 1. p. 12.—*Meyer*, Vög. Deut. v. 2. Heft 23. a figure of the Male.
 Osprey, *Br. Zool.* 1. No. 46.—*Id.* fol. p. 65. t. A. 1.—*Arct. Zool.* 2. No. 91.—*Lath.* Ind. Syn. 1. p. 45. 26.—*Id.* Suppl. p. 13.—*Levin's* Br. Birds, 1. t. 5.—*Mont.* Ornith. Diet.—*Id.* Sup.—*Wale.* Syn. 1. t. 5.—*White's* Hist. Selb. p. 97.—*Beirick's* Br. Birds, 1. p. 13.—*Shaw's* Zool. 7. p. 82.—*Don.* Br. Birds, 3. t. 70.—*Pull.* Cat. Dorset, p. 2.
 Carolina Osprey, *Lath.* Syn. 1. p. 46. 26. A.
 Cayenne Osprey, *Lath.* Syn. 1. p. 47. 26. B.

PROVINCIAL,—Fishing Hawk, Fishing Eagle, Bald Buzzard.

According to MONTAGU, this species appears to be more abundant in Devonshire than in any other part of the kingdom. Its peculiar habits necessarily limit its appearance to particular districts and situations; for being strictly piscivorous, it is only in the vicinity of lakes, rivers, or such pools of water as abound with fish, that we can expect to meet with it. I have seen them upon Loch Lomond (where they are said to breed), and upon Loch Awe, where an eyry is annually established upon the ruins of a castle near the southern extremity of the lake; and another, in a similar situation, nearly opposite to the Gorge, or egress of the River Awe. The nests are, however, generally robbed when containing eggs; and the young are hardly ever permitted to escape. These circumstances will account for their decreasing numbers in Scotland. The Osprey is a powerful bird, the female often weighing upwards of five pounds. Food.

Its limbs are very muscular, in proportion to its general dimensions, and measure nearly two inches in circumference below the knee.

The tarsi and feet are clothed with scales, and the under surfaces of the toes are very tough, and covered with protuberances,—an admirable provision for keeping firm hold of its slippery prey.—The peculiar formation of the foot contributes also greatly to this object; for in the Osprey, the talon of the outer toe is considerably larger than that of the inner one (the reverse of which we find in its congeners), and the toe itself is capable of being occasionally turned backwards. The thighs are covered with short feathers, closely set, and are totally destitute of the long plumes, which, in most instances, adorn the legs of the Falcon genus.

The plumage of the under parts of the body is also of a close and firm texture, and nearly resembles that of waterfowl. These peculiarities are in perfect accordance with the nature and habits of the individual; for, being subject to frequent and complete submersion in pursuit of its prey, the elongated thigh feathers would be only encumbering appen-

dages ; and a more open and delicate texture of feather would prove no defence against the element it so often visits.

The general flight of the Osprey is heavy, and like the Common Buzzard, but at times it glides slowly along, with motionless wing. MONTAGU * observes, that when examining the water for its prey, its wings are in continual action, although it remains stationary for a considerable time. Its superior weight, he adds, may perhaps render it difficult to continue suspension with an almost imperceptible play of the wings, like the Kestrel. According to TEMMINCK †, it is found pretty generally disseminated throughout Europe, and is very abundant in Russia, Germany, and Switzerland. The

Nest, &c. Osprey builds in lofty trees or ruins, or amid rocks, as the situation may afford, and not, as WILLOUGHBY has mentioned, among the reeds in marshy grounds. It lays three or four yellowish-white eggs, blotched and speckled with reddish-brown.

The figure at PLATE 4. is that of a female bird of the natural size, and about two years old.

The male is rather smaller, but similar in plumage.

General
description.

Bill large, straightish at the base, and very hooked at the tip, of a bluish-black colour ; cere greyish-blue. Irides lemon-yellow. Crown of the head umber-brown, the feathers edged with white, long, slender, and acuminate ; hind part of the head and nape of neck white. On each side of the neck, proceeding from the posterior angle of the eye, and reaching almost as far as the shoulders, is a streak of blackish-brown. Throughout the throat, white, with a few brown streaks and speckles. On the upper part of the breast, a patch of umber-brown ; this is indicative of a young bird, the adults

* Article *Osprey*, in Supplement to Ornithological Dictionary, where some interesting facts are given relative to the history of this bird.

† *Man. d'Ornith.* 2d edit.

generally having that part immaculate. Belly, vent, thighs, and under tail-coverts, white.

The whole of the upper part of the body umber-brown, in some individuals the feathers margined pale. Two middle tail-feathers umber-brown, the rest transversely barred with white on their inner webs. Greater quills blackish-brown. Legs short, of a greyish-blue colour; the tarsi covered with rough reticulated scales. Toes armed with very long talons, which are cylindrical, being rounded beneath, and the outer one the largest.

SUB-FAMILY ACCIPITRINA.

Bill bending from the base, with a prominent lobe, or festoon, upon the cutting margin of the upper mandible. Wings short, and when closed not reaching beyond two-thirds of the length of the tail. The fourth quill-feather generally the longest in the wing. Legs rather slender and long.

The passage from the aquiline group is effected by certain species in which the wings become shortened, and the tarsi slender. To the Falcons the *Hawks* are nearly allied in habit; as their prey (consisting of birds and mammalia) is taken entirely upon wing; dead subjects and carrion being refused by them even when pressed by hunger. Their mode of attack on birds is, however, different, being generally in an oblique line, or in rapid evolutions, near the earth, and not by outsoaring and then pouncing down upon them from above. Their bill also wants the strength of that of the true falcons, the sides being more compressed; and instead of the marked tooth of the upper mandible, and the corresponding notch in the lower, it is only furnished with the marginal lobe or sinuation above mentioned. Their near affinity to the Buzzards (Sub-Family *Buteonina*) is supported by certain species of the latter, which approach in many

particulars to the genus *Astur*, containing the larger Accipitrine birds. *Buteo borealis* of Swainson may be cited as an example of this near relationship.

GENUS ASTUR, *BECHST.* GOSHAWK.

GENERIC CHARACTERS.

Bill short, bending from the base, with the sides rather compressed, and the upper mandible having a lobe or festoon upon its cutting margin. Nostrils oval, opening rather obliquely forwards. Wings short, and, when closed, scarcely reaching to one-half the length of the tail. The fourth quill-feather the longest in the wing, and the inner webs of the first five, deeply notched. Legs having the tibia and tarsi of mean length; the latter scutellated, or covered in front, with large broad scales. Toes of mean length; the middle toe much longer than the side one, which are nearly equal to each other. Hind toe strong; claws incurved, very strong, and sharp; those of the hind and inner fore toes much larger than the other two.

By BECHSTEIN, the title of *Astur* was applied to this whole sub-family, but it has since been confined to the larger species, which have the tarsi shorter in comparison to their size, and the scales that defend them rather differing in form and texture from those of the Sparrow-Hawks (genus *Accipiter*), to which, in other respects, both as to habits and form, they are closely allied. The Goshawks, though strong, are neither so compactly nor powerfully built as the true Falcons; and, from the shortness of the wings, their flight, when in active pursuit, is performed by quicker repeated strokes, and nearer to the ground. These birds, however move with singular rapidity, and in their evolutions are greatly assisted by the length and expanse of their tail. They feed entirely upon feathered and animal prey, frequently of much size, which they strike when in motion upon wing. They are

chiefly the inhabitants of wooded districts, and possess a wide geographical distribution.

GOSHAWK.

ASTUR PALUMBARIUS, Bechst.

PLATES XII. AND XII*.

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|---|---------------------------------|
| <p><i>Falco palumbarius</i>, <i>Linn. Syst.</i> 1. p. 130.—<i>Gmel. Syst.</i> 1. p. 269. sp. 30.
 —<i>Lath. Ind. Ornith.</i> 1. 29. sp. 65.—<i>Meyer</i>, <i>Tasschenb. Deut.</i> v. 1. p. 49.
 —<i>Fauna Suec. No. 67.</i>—<i>Raii</i>, <i>Syn.</i> p. 18. 1.—<i>Will.</i> p. 5. t. 3. and 5.
 <i>Astur</i>, <i>Briss.</i> 1. p. 317.—<i>Ib.</i> 8vo, p. 91.
 <i>L'Auteur</i>, <i>Buff.</i> <i>Ois.</i> 1. p. 130.—<i>Id.</i> <i>Pl. Enl.</i> 418.—<i>Temm. Man. d'Ornith.</i>
 1. p. 55. 2d ed.
 <i>Hunderhacht</i>, <i>Bechst. Tasschenb. Deut.</i> v. 1. p. 28.
 <i>Goshawk</i>, <i>Br. Zool.</i> 1. No. 52. t. 24.—<i>Arct. Zool.</i> 2. No. 99.—<i>Lath. Syn.</i>
 1. p. 58.—<i>Id. Sup.</i> p. 16.—<i>Mont. Ornith. Dict.</i>—<i>Id. Suppl.</i>—<i>Albin.</i> 2.
 t. 8.—<i>Lewin's Br. Birds</i>, 1. t. 9.—<i>Walc. Syn.</i> 1. t. 9.—<i>Bewick's Br.</i>
 <i>Birds</i>, 1. p. 23.—<i>Shaw's Zool.</i> v. 7. p. 118.—<i>Low's Fauna Orcad.</i> p. 36.)</p> | <p>} Synonyms of
Adult.</p> |
| <p><i>Falco gallinarius</i>, <i>Gmel. Syst.</i> 1. p. 266. sp. 73.
 <i>Falco gentilis</i>, <i>Gmel.</i> p. 270. sp. 13.—<i>Lath. Ind. Ornith.</i> i. p. 29. sp. 66.
 <i>L'Auteur sors</i>, <i>Buff.</i> <i>Pl. Enl.</i> pl. 461. and 423.
 <i>Greater Buzzard</i>, <i>Lath. Syn.</i> v. p. 49.)</p> | <p>} Synonyms of
Young.</p> |

This powerful species of Falcon is very rarely met with in England. I have never seen a recent specimen south of the Tweed. In the wild and mountainous districts of Scotland it is more common, and is known to breed in the forest of Rothiemurchus, and on the wooded banks of the Dee; and, according to Low, in his *Fauna Orcadensis*, is rather numerous in those islands (Orkneys), where it breeds in the rocks and sea-cliffs. Its flight is very rapid, but generally low, and it strikes its prey upon the wing. Different kinds of feathered game, wild ducks, hares and rabbits form its principal food. According to MEYER, it will even prey upon the young of its own species. It generally builds in lofty fir trees, and lays from two to four eggs, of a skim-milk white, marked with streaks and spots of reddish-brown. Nest, &c.

By falconers, it was considered to be the best and most courageous of the short-winged hawks, and was accordingly

trained to the pursuit of grouse, pheasants, wild geese, herons, &c. Although it is nearly equal in size to the Jer-Falcon, yet the shortness of its wings, and its general contour, readily distinguish it from that species, in all its stages of plumage.

The Goshawk is very common in France, as well as in Germany, Switzerland, and Russia.

In Holland it is rare. The "*Falcon gentil*," from its description, must be referred to this species.

PLATE 12. Represents an adult male, in the natural size, drawn from a specimen in the possession of Sir WILLIAM JARDINE, Bart.

General
description.
Adult male
bird.

Bill bluish-grey, darkest at the tip. Cere wax-yellow. Irides bright gamboge-yellow. Crown of the head dark clove-brown. Over the eye is a streak of white, mixed with clove-brown. Ear-coverts streak down the sides of the neck, and the whole of the upper parts, hair-brown; the quills being barred with a darker shade of the same. Tail hair-brown, with five distinct bars of blackish-brown; the tip being white. Chin and throat white, streaked with hair-brown. Under parts and thighs white, barred transversely with dark hair-brown.

Under tail-coverts white. Legs and toes wine or wax yellow.

Front of the tarsi scutellated; the scales being well defined, and partly overlapping each other.

Claws black; those of the inner and hind toes very large, and much hooked.

PLATE 12*. A young male bird, of the natural size.

Young
male bird.

Bill bluish-gray, dark towards the tip. Cere lemon-yellow. Irides grey. Above the eye, and passing to the occiput, is a streak of white, intermixed with a few brown specks. The crown of the head, and upper part of the neck, reddish-brown, the feathers margined with white. Upper part of the neck reddish-brown, the feathers mar-

gined with white. Upper parts of the body liver brown, the feathers margined paler. Under parts reddish-white, with long lanceolate streaks of blackish brown, occupying the centres of the feathers. Tail liver-brown, with four bars of blackish-brown; the tip white. Tarsi and toes lemon-yellow. Claws black.

White varieties of the Goshawk have been sometimes met with.

GENUS ACCIPITER, *Auct.* SPARROW-HAWK.

GENERIC CHARACTERS.

Bill bending from the base, the sides compressed upwards, and forming a rather narrow rounded culmen. Cutting margin of the upper mandible with a very distinct obtuse lobe. Nostrils oval. Wings short; the fourth and fifth feathers longest; the first having the inner web alone notched, or sinuated; the next four with *both webs* emarginated. Legs with the tarsi long and slender, scutellated in front, with the scales thin and smooth, and closely united to each other. Feet having the toes slender, the middle one longer than the outer by *one* joint, and exceeding the inner by *two*. Hind and inner toes of equal length and strength, armed with very strong, hooked, and sharp claws, much longer than those upon the middle and outer toes.

The Sparrow-Hawks are chiefly distinguished from the birds of the preceding genus by their inferior size, and the greater comparative length and smoothness of their tarsi. In habits and mode of living, a great similarity exists; and though small, they are equally noted for their courage and audacity. In the various species that belong to the present genus, the difference of size between the male and female is more than usually marked, of which our own indige-nous bird furnishes a striking example. By CUVIER, the gene-

ric term of *Nisus* was conferred upon the group; but, as the title of *Accipiter* had long been given to it, and adopted also by RAY and BRISSON, I have, in conformity with the rule generally advocated, retained the one sanctioned by priority of imposition.

SPARROW-HAWK.

ACCIPITER FRINGILLARIUS, Ray.

PLATES XIII. AND XIII*.

- Accipiter Fringillarius, Raii*, Syn. p. 18. A. 2.—*Will.* p. 51. t. 5.—*Shaw's Zool.* 13. 30.
Falco Nisus, Linn. Syst. 1. p. 131. 31.—*Fauna Suec.* No. 69.—*Gmel. Syst.* 1. p. 280. 31.—*Lath. Ind. Ornith.* 1. p. 44. 107.—*Meyer, Tasschenb. Deut.* 1. p. 25.—*Muller, No.* 71.
Buteo Nisus, Flem. Br. Anim. 1. 55. No. 24.
L'Epervier, Buff. Ois. v. 1. p. 225.—*Id. Pl. Enl.* 467. and 412.—*Temm. Man. d'Ornith.* 1. p. 56. 2.
Die Sperber, Bechst. Tasschenb. Deut. 1. p. 29.
Sparrow-Hawk, Br. Zool. 1. No. 62.—*Ib.* fol. t. A. 10. A. 11.—*Arct. Zool.* 2. p. 226. N.—*Lath. Syn.* 1. p. 99, 85.—*Ib. Suppl.* p. 26.—*Levin's Br. Birds.* 1. t. 20.—*Haye's Br. Birds.* t. 3.—*Wil. (Ang.)* p. 56.—*Mont. Ornith. Dict.*—*Bewick's Br. Birds.* 1. 27.—*Shaw's Zool.* 7. 187.—*Low's Fau. Orcad.* p. 38.—*Pull. Cat. Dorset.*

This destructive and well known species is remarkable for the great difference in size between the male and female, the former seldom measuring twelve inches in length, whilst the latter often exceeds fifteen inches. It is one of the boldest of its genus, and the female, from her superior size, is a fatal enemy to partridges and other game, as well as pigeons.—It flies low, skimming over the ground with great swiftness, and pounces its prey upon the wing with unerring aim. The force of its stroke is such as generally to kill, and sometimes even to force out the entrails of its victim.

It is common in most parts of the kingdom, but particularly frequents the lower grounds, and well wooded inclosures.—It builds in low trees, or thorn bushes, forming a shallow and flat nest, composed of slender twigs, and very

similar to that of the Ring Dove, but rather larger. It will occasionally occupy the deserted nest of a Crow.

The eggs are from four to six in number, of a skim-milk white, blotched at the larger end with reddish brown. In the Orkney Islands, where it is abundant, it breeds in the rocks and sea cliffs. Mr Low, in his *Fauna Orcad.*, mentions a combat that he witnessed between the Sparrow-Hawk and the Short-eared Owl, and which terminated in the defeat of the latter. During the time these birds have young, the depredations they commit upon game, and the small feathered tribe, are very great. In a nest containing five young ones, Food. I found a Lapwing, two Blackbirds, a Thrush, and two Green Linnets, recently killed, and partly divested of their feathers.

The Sparrow-Hawk is very widely diffused, and found in all parts of Europe.

In the days of Falconry it was trained, and much approved in the pursuit of partridges, quails, and many other birds.

In rearing the young of this species, care should be taken to separate them very early, otherwise the female birds, being superior in size, and stronger, are sure to destroy and devour the males, as I have repeatedly found, when they were kept caged together.

PLATE 13. A female of the natural size. Bill bluish-grey, the tip black. Cere lemon-yellow. Irides gamboge-yellow. Crown of the head and upper parts of the body blackish-grey, passing into clove-brown. Above the eye (which is defended by a large bony projection) is an indistinct line of white, which also encircles the nape of the neck. Under parts white, undulated with black or brownish-black bars. Quills greyish-black, the exterior webs with darker bars. Base and margin of the inner webs barred with white. Tail clove-brown, with broad brownish-black bars, the tip white. Legs and

General
description.
Female
bird.

toes long and slender, particularly the middle toe, colour gamboge, inclining to primrose-yellow. Claws black, hooked, and strong; those of the inner and hind toes being of equal size, and longer than the others.

Male bird. **PLATE 13 ***. A male bird, also represented in the natural size, and shewing the singularly great difference in dimensions between the sexes.

Colour of the upper parts of the body (being an immature bird) clove-brown, the feathers edged with light reddish-brown. Under parts tinged with reddish-brown, and many of the undulating bars or transverse lines of the same hue.

The upper parts of the adult male are of a fine bluish-grey colour.

SUBFAMILY FALCONINA.

Bill thick, strong, short, bending suddenly from its base, and toothed. Wings long; the second quill-feather the longest in the wing. Tarsi short, strong, and reticulated. Toes armed with hooked and very sharp talons. The larger species are very courageous, and strong upon the wing, preying entirely on living birds and animals. Some of the smaller species are partly insectivorous.

GENUS FALCO, LINN. FALCON.

GENERIC CHARACTERS.

Bill short, very strong, curved from the base; the upper mandible armed on each side, near its point, with an acute tooth, which fits into a corresponding notch in the lower one, the tip of which is truncated. Cere very short. Nostrils

lateral, circular, and open, with a small, round, central column. Wings long, acuminate; the second feather generally the longest; and one or more of the first quills with the inner web strongly notched near the top. Legs having the tarsi rather short, strong, and reticulated. Feet with the middle toe united to the outer one at their base by a membrane, and exceeding it in length by a joint; the inner shorter than the outer toe. Hind toe short, armed, as well as the inner toe, with a strong, hooked, and very sharp talon, exceeding the others in length.

The birds of this genus, justly considered the typical form of the Falconidæ, as possessing the raptorial powers in the highest perfection, are distinguished from the other groups by their stronger bill, furnished with an acute tooth; their long and acuminate wings, vigorous power of flight, and peculiar mode of capturing their prey. From their docility, and susceptibility of being *reclaimed* (that is, trained to the purposes of falconry), they have been usually termed "the Noble Birds of prey," all the others coming under the designation of "Ignoble." The more powerful species prey upon the larger birds and animals; the former of which they capture upon wing, by outsoaring, and then darting down upon them with astonishing force and rapidity, the death-stroke being inflicted by their talons. Many of the smaller kinds, in addition to birds and the lesser animals, feed also upon insects, particularly those of the Coleopterous order. Their general form is robust yet compact, and their power of flight, from the full development of the wings, perhaps unequalled for swiftness and durability. It has, however, been remarked, that, from their shape, they experience a difficulty in rising vertically, and in calm weather they are compelled to make their ascent in an oblique direction. This genus contains a great number of species, spread throughout every part of the globe, and in all parts equally distinguished for their courage and predatory habits. Though at present the various species

are united under one head, it is probable that, when more thoroughly known, from having been subjected to analysis, it may be found necessary to subdivide the genus, which, indeed, in the case of the smaller American Falcons, has already been done by the Prince of Musignano, he having characterized these latter as a distinct group, with "wings shorter than the tail, and scutellated tarsi;" which last character, however, as Mr Swainson has properly observed, is only partially correct.

JER-FALCON.

FALCO ISLANDICUS, Lath.

PLATE XIV.

- | | |
|------------------------------|--|
| Syn. of Adult. | { Faucon Gerfaut, <i>Temm. Man. d'Ornith.</i> 1. p. 17.
Falco Islandicus candicans, <i>Lath. Ind. Ornith.</i> 1. p. 32. 69.— <i>Gmel. Syst.</i>
1. p. 275. sp. 101.— <i>Meyer, Tasschenb. Deut.</i> 1. sp. 65.
Falco Rusticolus, <i>Gmel. Syst.</i> 1. p. 268. sp. 7. <i>Lath. Ind. Ornith.</i> v. 1.
p. 28. 60.
Gerfaut de Norvège, <i>Buff. Ois.</i> 1. p. 239.— <i>Id. Pl. Enl.</i> 462.
White Jer-Falcon, <i>Lath. Syn.</i> 1. p. 83 and 84.— <i>Id. Supp.</i> p. 21.— <i>Br. Zool.</i>
1. No. 47. t. 19.— <i>Arct. Zool.</i> 2. p. 221. E.— <i>Lewin's Br. Birds</i> , 1. t. 26.
Gyrfalco candicans, <i>Flem. Br. Anim.</i> 1, 51. No. 14. |
| Syn. of Im-
mature Birds. | { Falco Gyrfalco, <i>Lath. Ind. Ornith.</i> 1. 32. 68. <i>Linn. Syst.</i> 1. p. 130.—
<i>Gmel. Syst.</i> 1. p. 275. sp. 27.
Gyrfalco Islandicus, <i>Briss.</i> 1. p. 373. A. t. 31.— <i>Id.</i> 8vo. p. 108.— <i>Muller</i> ,
No. 73.
Falco sacer, <i>Gmel.</i> p. 273. sp. 93.
Le Gerfaut, <i>Buff. Ois.</i> 1. p. 239. t. 13.— <i>Id. Pl. Enl.</i> 210 and 446.
Le Sacre, <i>Buff. Ois.</i> 1. 246. t. 14.
Iceland Falcon, <i>Arct. Zool.</i> 2. p. 216.— <i>Lath. Syn.</i> 1. 71. 5. B.
Jer-Falcon, <i>Mont. Ornith. Dict.</i> — <i>Id. Supp.</i> — <i>Bewick's Br. Birds</i> , 1. p. 29.
— <i>Low's Fauna Orcad.</i> p. 35.
Brown Jer-Falcon, <i>Lath. Syn.</i> 1. p. 82.
Greenland Falcoh, <i>Arct. Zool.</i> 2. p. 220. |

THIS is one of the most powerful, and at the same time one of the boldest of the whole genus.

As such, it was held in high estimation by the followers of that princely, but now neglected pastime we have before mentioned, and was used for flying at what were deemed the

“nobler flights” of game, such as cranes, herons, wild geese, &c.

According to “The Gentleman’s Recreation” (an old but interesting treatise on hunting, hawking, and other field sports), this kind was difficult to *reclaim*; but, when once brought to obey the voice of the falconer, was of much greater value than any of the others.

The Jer-Falcon is of very rare occurrence in England; and I have never been able to examine a recent specimen on the south of the river Tweed.

It is known in the northern parts of Scotland, particularly in the Orkney and Shetland Isles, and is enumerated by Mr Low in his *Fauna Orcad.*, but he appears to consider it as a visitant, not as a fixed inhabitant of those parts.

In Europe, Iceland, Greenland, and other northern countries, are the native regions of this species; and from the first of which it has obtained its trivial name. It was from this island, also, that the Royal falconries of Denmark and other kingdoms were supplied with their choicest casts of hawks. According to Dr Richardson*, the Jer-Falcon is a constant resident in the Hudson’s Bay territories, where it is known by the name of the “Speckled Partridge Hawk,” or by that of the “Winterer.” He adds, it is not enumerated by Wilson or Bonaparte amongst the birds of the United States, and I am unable to give the exact southern limits of its range, though I have ascertained that it is occasionally found as far south as latitude 52°. It is found northward to the coast of the Arctic Sea; and probably in the most northern Georgian Islands.” Its geographical distribution, therefore, seems limited to latitudes not lower than 50°.

It breeds in the highest and most inaccessible rocks; but the number and colour of the eggs remain as yet undescribed. During the period of incubation, and while rearing its young, it becomes very daring; as we learn from the following state-

* See *Fauna Boreali Amer.* vol. ii. page 27.

ment of the author above mentioned. "In the middle of June 1821, a pair of these birds attacked me, as I was climbing in the vicinity of their nest, which was built on a lofty precipice on the borders of Point Lake, in latitude $65\frac{1}{2}^{\circ}$. They flew in circles, uttering loud and harsh screams, and alternately stooping with such velocity, that their motion through the air produced a loud rushing noise. They struck their claws within an inch or two of my head. I endeavoured, by keeping the barrel of my gun close to my cheek, and suddenly elevating its muzzle when they were in the act of striking, to ascertain whether they had the power of instantaneously changing the direction of their rapid course; and found that they invariably rose above the obstacle with the quickness of thought, shewing equal acuteness of vision, and power of motion.—It preys upon the larger species of game and wild-fowl, also on hares and quadrupeds, upon which it precipitates itself with amazing rapidity and force.

Food.

Its usual mode of hawking is, if possible, to out-soar its prey, and thence to dart perpendicularly upon it.

PLATE 14. Represents a male of this species, of middle age, and in the natural size; drawn from a specimen in the valuable collection of JOSEPH SABINE, Esq.

General description.

Bill very strong and thick; with a well-marked tooth. Colour bluish-grey. Cere and orbits lemon-yellow. Irides reddish-brown. Head and neck white, with a few blackish-brown spots or streaks. Breast and belly white, slightly spotted in the same manner. Upper parts blackish-brown, the feathers spotted and margined with greyish-white, the bars of the feathers being also white. Tail banded, blackish-brown and white. Legs and toes yellow. Claws black. For a more particular description of the plumage, &c. at different periods of age, I refer my readers to the "Fauna Boreali Americana."

PEREGRINE FALCON.

FALCO PEREGRINUS, Linn.

PLATES XV. and XV*.

- Faucon Pelerin, *Temm. Man. d'Ornith.* v. 1. p. 22.
 Falco Peregrinus, *Lath. Ind. Ornith.* 1. 33. 72.—*Gmel. Syst.* 1. p. 272.—
Briss. 1. p. 341.—*Raii*, *Syn.* p. 13. 1.—*Flem. Br. Anim.* 1. 49. No. 10.—
Faun. Boreali Amer. 2. 23. No. 7.
 Falco Barbarus, *Lath. Ind. Ornith.* 1. 38. 71.—*Gmel. Syst.* 1. p. 272.
 Le Faucon Pelerin, *Buff. Ois.* 249. t. 16.
 Wander-Falke, *Bechst. Tasschenb.* p. 33.—*Meyer, Tasschenb. Deut.* 1.
 p. 55.
 Le Lanier, *Buff. Pl. Enl.* 430. Adult Male.
 Peregrine Falcon, *Br. Zool.* 1. No. 48. t. 8.—*Arct. Zool.* 2. No. 97.—*Lath.*
Syn. 1. p. 73.—*Id. Supp.* p. 18.—*Lewin's Br. Birds*, 1. t. 12.—*Mont. Or-*
nith. Dict.—*Id. Supp.*—*Walc. Syn.* 1. t. 12.—*Shaw's Zool.* 7. p. 128.—
Bewick's Supp. Br. Birds.
 Tartarian Falcon, *Lath. Syn.* 1. p. 73. A.
 Spotted Falcon, *Lath. Syn.* 1. p. 68.—*Pull. Cat. Dorset*, p. 2.
 Barbary Falcon, *Will. (Ang.)* p. 81.—*Lath. Syn.* 1. p. 72.
 Great-footed Hawk, *Wils. Amer. Orn. ed. Sir W. Jardine*, 3. 251. pl. 76.
 fem.
 Falco communis, *Gmel.* 1. p. 270.—*Lath. Ind. Ornith.* 1. 30. t. 67.—*Briss.*
 1. p. 321.
 Falco Hornotinus, *Briss.* 1. p. 324. A.—*Gmel. Syst.* 1. p. 270.
 Faucon Sors, *Buff. Ois.* 1. t. 13.—*Id. Pl. Enl.* 470.
 Yearling Falcon, *Lath. Syn.* 1. p. 65.
 Falco gibbosus, *Briss.* 1. p. 324. B.—*Gmel. Syst.* 1. 270.
 Le Faucon Haggard, *Buff. Ois.* 1. 254.
 Haggard Falcon, *Will. Ang.* p. 88.—*Lath. Syn.* 1. p. 66.
 Black Falcon, *Lath. Syn.* 1. p. 67.—*Edw.* t. 4.
 Red Falcon, *Lath. Syn.* 1. p. 69.
 Red Indian Falcon, *Will. Ang.* p. 81. t. 9.—*Lath. Syn.* 1. p. 69.

Syn. of
Adult.Syn. of
Young

THE uncertainty in which the history of this species was long involved, appears to have arisen from the error of earlier writers, in considering the *Falco Peregrinus* and *Falco communis*, with its enumerated varieties, as two distinct species.

Deficiency of observation, and consequent want of an accurate knowledge of the various changes of plumage the bird undergoes in its progress to maturity, naturally led to this effect; and we accordingly find, that the bird hitherto described as the *Falco communis*, the type of the supposed species, and its varieties, must have been originally figured

from an immature specimen of the *Falco Peregrinus*, the species now under consideration.

By tracing the gradual advances, and noting the gradations of colour of this bird from a nestling to maturity, the several varieties of the supposed *F. communis* may also be connected, and the individuals brought back to the same line of descent, from the different synonyms under which they have been hitherto known.

Thus, the *Falco Hornotinus*, or Yearling Falcon, appears to be the young bird in its nestling or early plumage. The *Falco fuscus* I should consider as a bird of the same age, but a female.

Passing over the White-headed (*F. leucocephalus* and White Falcon (*F. albus*), to be regarded only as accidental varieties, (though it might admit of a doubt, whether they are not links in the gradation of the change of plumage, which, let it be remembered, is regulated by certain and fixed laws), we come, in the next place, to the *Falco communis* of authors. At this period of its life, it has undergone a moult; and though a marked difference still exists between it and the old Peregrine Falcon, the advance towards maturity is sufficiently perceptible. The intermediate links in the chain upwards are supplied by the *F. gibbosus*, the *F. ruber indicus*, and the *F. maculatus*, which last shews the transition to the adult *F. Peregrinus* *.

In England and Wales the Peregrine Falcon is rare, and is only found indigenous in rocky or mountainous districts. The Highlands and Northern Isles of Scotland appear to be the situations most favourable to it, and in that part of the kingdom it is numerous and widely diffused †. The most

* My own observations on this species have been confirmed and greatly assisted by an excellent paper, written by JAMES WILSON, Esq. entitled, "Observations on some species of the genus *Falco*," and published in the 2d volume of the Transactions of the Wernerian Society.

† In Dumfriesshire it breeds numerously in the precipices of the Moffat range of hills. See Sir WILLIAM JARDINE's Note on the Great-footed Hawk, in his edition of WILSON's Americ. Ornith. vol. iii. p. 251.

inaccessible situations are always selected for its eyry, and Nest, &c. its nest is placed upon the shelf of a rock. It lays four or five eggs, in colour very similar to those of the Kestrel, but considerably larger.

In America it has a very wide distribution, being found in both divisions of that continent, and in a great variety of latitude, as it changes its hunting grounds with the season. In summer its range extends to Hudson's Bay and Melville Peninsula, from whence specimens were brought by Captain PARRY, and where it preys chiefly upon the water-fowl, particularly the Long-tailed Duck (*Harelda glacialis*). Captain KING also met with it at Port Famine, in the Straits of Magellan; and the species appears to be the same in New Holland.

In daring disposition it equals most of its congeners, and many interesting traits in its history are related by different writers, amongst which, some in the Supplement to the Ornithological Dictionary will well reward the reader's attention*.

I may be allowed to add the following instance, as having happened under my own observation, and as exemplifying not only its determined perseverance in pursuit of its prey, when under the pressure of hunger, but as arguing also an unexpected degree of foresight.

In exercising my dogs upon the moors, previous to the commencement of the shooting season, I observed a large bird of the Hawk genus hovering at a distance, which, upon approaching, I knew to be a Peregrine Falcon. Its attention was now drawn towards the dogs, and it accompanied them, whilst they beat the surrounding ground. Upon their having found, and sprung a brood of grouse, the falcon immediately gave chase, and struck a young bird, before they had proceeded far upon wing. My shouts and rapid advance prevented it from securing its prey. The issue of this at-

* See MONTAGU, Suppl., under the head *Falcon Peregrine*.

tempt, however, did not deter the Falcon from watching our subsequent movements, and another opportunity soon offering, it again gave chase, and struck down two birds by two rapidly repeated blows, one of which it secured, and bore off in triumph.

The flight of this species, when pursuing its quarry, is astonishingly rapid, almost beyond credibility. By MONTAGU it has been reckoned at 150 miles in an hour.

Colonel THORNTON, an expert falconer, estimated the flight of a Falcon, in pursuit of a Snipe, to have been nine miles in eleven minutes, without including the frequent turns.

This sort was formerly much used in falconry, and was flown at the larger kinds of game, wild ducks and herons.

Food.

In its unreclaimed state it preys upon the different sorts of game, wild geese, wild ducks and pigeons.

PLATE 15. An adult female, in three-fourths of the natural size.

General
description.

Adult
Female.

Bill deep bluish-grey at the base, black towards the tip; very strong, and armed with a prominent tooth. Cere and space surrounding the eyes lemon-yellow. Irides brown. From the corners of the mouth is a bluish-black patch or streak pointing downwards. Head greyish-black. Upper parts of the plumage deep bluish-grey, marbled with a darker tint. Quills brownish-black, the inner webs barred with white; the first quill having a deep sinuation near the tip of the inner web. Tail-coverts bluish-grey, barred with greyish-black.

Tail barred alternately with black and grey, the tips of the feathers white. Throat and breast yellowish-white. Belly, vent and thighs greyish, transversely barred with greyish-black. Under wing-coverts white, barred with black; tarsi short and strong. Toes very long, particularly the middle one, colour gamboge-yellow. Claws black, hooked, and strong. The wings, when closed, reaching to the end of the tail.

PLATE 15 *. Represents an immature bird, and of the size of nature; indicating a change of plumage, by a few grey feathers upon the back and scapulars. The crown of the head, and upper parts blackish-brown, the occiput with a few white feathers. Chin and under part of the neck white, with black streaks. Breast, belly, and thighs white, with oblong cordated blackish-brown spots. Tail barred with bluish-brown and black. Legs and toes inclining to leek-green.

HOBBY.

FALCO SUBBUTEO, Linn.

PLATE XVI.

Falco subbuteo, Lath. Ind. Ornith. 1. p. 47. 114.—Gmel. Syst. 1. p. 283.—*Raii*, Syn. p. 15. A. 14.
Dendro Falco, Briss. 1. p. 375. 20.—*Id.* 8vo. p. 109.—*Will.* p. 47.
 Le Hoberreau, Buff. Ois. 61. p. 277.—*Id.* Pl. Enl. 432.
 Faucon Hoberreau, Temm. Man. d'Ornith. 1. p. 25. 2 ed.
 Faum-falke, Bechst. Tasschenb. Deut. 1. p. 36.
 Hobby, Br. Zool. 1. No. 61.—Arct. Zool. 2. p. 227. C.—*Will.* (Ang.) p. 83.
 —*Lewin's* Br. Birds, 1. t. 21.—*Lath.* Syn. 1. p. 103. 99.—*Id.* Supp. p. 28.
 —*Mont.* Ornith. Dict.—*Id.* Sup.—*Pult.* Cat. Dorset. p. 3.—*Don*, Br. Birds, 4. p. 91.—*Walc.* Syn. 1. t. 21.—*Bewick's* Br. Birds, 1. p. 41.—*Shaw's* Zool. v. 7. p. 193.

IN England, this species of Falcon is among the number of those birds that are named Polar Migrants, or summer periodical visitants. It arrives in April, and after performing the offices of incubation, and of rearing its young, leaves us, for warmer latitudes, in October. I have not been able to trace it far northward, and believe that the boundary of its migration will include but a few of the southern and midland counties †.

Wooded and inclosed districts appear to be its usual haunts.

† It has been killed as far north as the Tyne; and a specimen shot at Streatham Castle, Durham, is now in the collection of the Messrs HANCOCK, at Newcastle-upon-Tyne.

It builds in lofty trees, but will sometimes save itself the task of constructing a nest, by taking possession of the deserted one of a Magpie or Crow. The number of its eggs is commonly four, of a bluish-white, with olive-green, or yellowish-brown blotches.

Food.

Its favourite game is the Lark, but it preys upon all small birds. Partridges and Quails also become frequent victims to its courage and rapacity, in which qualities, diminutive as it is, it yields to none of its tribe.

Possessing a great length and power of wing, the flight of the Hobby is wonderfully rapid, and can be supported with undiminished vigour for a considerable time. I have often admired the adroitness displayed by one of this species, in pursuit of a Lark; the chase generally ending in the capture of the quarry, in spite of all its aerial revolutions and efforts to avoid the fatal blow.

When hawking was keenly followed, the Hobby was trained to the pursuit of young partridges, snipes, and larks. It is of elegant form, and resembles, in miniature, the Peregrine Falcon. The wings, when closed, reached beyond the end of the tail, in the specimens that have fallen under my inspection, though MONTAGU mentions them as being shorter.—According to TEMMINCK, it is common throughout Europe, during the summer months; but retires to warmer regions at the approach of winter. It is widely spread throughout Asia; and I have received specimens from the East Indies, in every respect similar to our own.

PLATE 16. Shews an adult male, of the natural size.

**General
descrip-
tion.**

Bill bluish-black; strong; with the tooth prominent, and a slight sinuation posteriorly. Cere and eyelids yellow. Irides reddish-brown. Upper parts greyish-black, the margins of the feathers being a shade paler. A black patch or streak proceeds from the corners of the inferior mandible down each side of the neck. Chin and throat white. Breast and belly inclining to buff-orange, with

dark brown streaks. Thighs and under tail-coverts buff-orange. Quills black, the inner webs of the feathers having orange-brown spots. The first quill having a deep notch or sinuation on the inner web, about an inch from the tip; the second having the *outer* web obliquely sinuated, and being the longest in the wing; the first exceeding the third in length. Tail greyish-black, the outer feathers having yellowish-brown bars on their inner webs. Tarsi and toes yellow. Claws black.

ORANGE-LEGGED HOBBY.

FALCO RUFIPES, Bechst.

PLATE B.

Falco rufipes, Bechst., Tasschenb. Deut. 1. 39.—*Shaw's Zool.* 13. 39.

Falco vespertinus, Linn. Syst. 1. 129.—*Gmel. Syst.* 1. 282.

Lath. Ind. Orn. 2. 46. sp. 109. female.

Variété singulière de Hoberau, *Buff. Pl. Enl.* 431.

Faucon à pieds rouges, ou Hobeze, *Temm. Man. d'Orn.* 2. 33.

Rothfüßiger Falk, *Meyer, Vög. Deut. Heft.* 18. m. f.

Ingrian Falcon, *Lath. Syn.* 1. 102. 88.—*Id. Sup.* 27.—*Lath. Gen. Hist.* 1.

122. No. 49.—*Shaw's Zool.* 7. 190.

Orange-legged Hobby, *Lath. Syn.* 2. 46.—*Id. Gen. Hist.* 1. 124, 51.

Red-footed Falcon, *Gould's Birds of Europe.*

SPECIMENS of this Falcon having been killed in Norfolk, I now insert it in the list of our Fauna as an occasional visitant. In form and general appearance it bears a strong resemblance to the Hobby, though of smaller dimensions; possessing also the characteristic length of wing that distinguishes the typical forms of the genus. The wings, when closed, reach to the end of the tail, and are very sharp-pointed; the second feather is the longest, by about half an inch; and the first and third, in the specimen now before me, are of equal length. At one inch and a quarter from the tip, the first quill has its inner web (as in the Hobby) abruptly notched; of the second, the outer web alone is very obliquely sinuated. The tarsi (which are feathered in front

Occasional
Visitant.

for more than one-third of their length) are reticulated, but shew three large scales at the bottom, and on a line with the middle toe, though not so broad or distinctly marked as those in the Merlin, the *Rusty-crowned Falcon*, or the Kestrels. This species preys upon Quails and small birds, and, like some of the other lesser Falcons, much upon the larger coleopterous insects. TEMMINCK, in his "Manual," mentions that Mr MEYER found nothing but the remains of beetles in the stomachs of such as he dissected. It inhabits wooded districts, and is a common species in Russia, Poland, and Austria, reaching as far westward as the Tyrol and Switzerland; but in France, as in this country, it is of rare occurrence.

General
description.

Male.

Female.

The old male bird is described as having the head, neck, breast, and upper parts of the body, of an uniform blackish-grey; the abdomen and thighs reddish-brown; the cere, eye-orbits, and legs rich orange-red; and the claws yellowish, with darker points. The female is larger, and differs widely from the male in appearance, in the adult state; the head and nape of the neck are of an uniform pale reddish-brown, with a dark circle round the eye; the throat and cheeks white; the breast and abdomen tinged with pale reddish-brown, the shafts of the feathers being dark brown. Upper plumage deep bluish-grey, barred with greyish-black. Tail bluish-grey, with several bars of black, of which the one nearest the tip is the broadest. The young females, according to GOULD, have the head streaked with a darker colour.

PLATE B. The following is the description of the bird from which the figure upon the plate was taken, and which I conceive to be a female of the second year. Crown of the head, nape, and moustache, pale reddish-brown. Eye-orbits encircled by a patch of greyish-black. Forehead, cheeks, and throat pale reddish-white. Lower part of the hind-neck, and adjoining the mantle, reddish-

brown, barred with greyish-black. [Back, wing-coverts and scapulars deep bluish-grey, each feather being transversely barred with greyish-black. Quills with their outer webs and tips blackish-grey, the remainder of the inner webs having transverse oval white bars. Breast and belly pale reddish-brown, tinged with cinereous, the shaft of each feather and a small spot near the tip deep brown. Abdomen, thighs, and under tail-coverts pale buff, immaculate. Tail pale bluish-grey, with nine black bars; the one nearest the tip being double the breadth of the others. Legs and toes deep orange-yellow. Claws yellowish white, with darker ends. Outer toe scarcely exceeding the inner in length. Bill, cere, and basal part of the under mandible, yellow; the tooth and posterior sinuation distinctly marked; the sides convex, leaving a broad and rounded culmen.

KESTREL.

FALCO TINNUNCULUS, Linn.

PLATES XVII. and XVII*.

- Falco Tinnunculus*, *Lath. Ind. Ornith.* 1. p. 41. t. 98.—*Gmel. Syst.* 1. p. 278. 16.—*Raii, Syn. Pl.* 16. 16.—*Will.* p. 50. t. 5.—*Meyer, Tasschenb.* 1. p. 62.—*Shaw's Zool.* 7. 179.—*Flem. Br. Anim.* 1. 50. No. 13.
Falco Tinnunculus alaudarius, *Gmel.* p. 279.
Accipiter alaudarius, *Briss.* 1. p. 379. 22.
La Cresserelle, Buf. Ois. v. 1. p. 379.—*Id.* Pl. Enl. 401. old male, and 471. the young of the year.
Faucon Cresserelle, Temm. Man. d'Ornith. 1. p. 29.
Turm-falke, Bechst. Tasschenb. Deut. 1. p. 37.
Kestrel, Stannel, Windhover, Will. (Ang.) p. 84. t. 5.
Kestrel, Br. Zool. 1. No. 60.—*Id.* fol. p. 68. t. A.—*Arct. Zool.* 2. p. 226. N.—*Lath. Syn.* 1. p. 94. 79.—*Id. Supp.* p. 25.—*Lewin's Br. Birds,* 1. t. 19. Mand. F.—*Mont. Ornith. Dict.*—*Walc. Syn.* 1. t. 1.—*Pult. Cat. Dorset.* p. 3.—*Low's Fau. Orcad.* p. 37.—*Don, Br. Birds,* 3. t. 51.—*Shaw's Zool.* v. 7. p. 179.—*Haye's Br. Birds,* t. 4.—*Bewick's Br. Birds,* 1. p. 38. and 40. Mand. F.

PROVINCIAL.—Kastril, Stonegall, Windhover.

THIS well-known species is distinguished, not only by the symmetry of its form and its elegant plumage, but by the

peculiar gracefulness of its flight, and the manner in which it frequently remains suspended in the air, fixed, as it were, to one spot, by a quivering play of the wings, scarcely perceptible. It is one of our commonest indigenous species, and is widely spread through the kingdom. Upon the approach of spring (or the period of incubation), it resorts to rocks and high cliffs.

Nest, &c. The nest consists of a few sticks loosely put together, and sometimes lined with a little hay or wool; and is placed in some crevice, or on a projecting shelf. I have known it, under the failure of more favourable situations, to breed in the deserted nest of a magpie or crow.

Food. The eggs are from four to six in number, of a reddish-brown colour, with darker blotches and variegations.—It preys upon the different species of mice, which it hunts for from the elevated station at which it usually soars, and upon which it pounces with the rapidity of an arrow. The castings of a nest of young Kestrels that I frequently inspected, consisted entirely of the fur and bones of mice; and MONTAGU remarks, that he never found the feathers or remains of birds in the stomach of this hawk. He therefore concluded, that it is only when it finds a difficulty in procuring its favourite food that it attacks and preys on the feathered tribes. That it will do so, under some circumstances, is evident, since bird-catchers have discovered the Kestrel in the very act of pouncing their bird-calls; and I have myself caught it in a trap baited with a bird.

In summer, the cockchafer supplies to this species an object of pursuit and food, and the following curious account given from an eye-witness of the fact. “I had,” says he, “the pleasure, this summer, of seeing the Kestrel engaged in an occupation entirely new to me, hawking after cockchafers late in the evening. I watched him through a glass, and saw him dart through a swarm of the insects, seize one in each claw, and eat them whilst flying. He returned to the

charge again and again. I ascertained it beyond a doubt, as I afterwards shot him *."

The Kestrel is easily reclaimed, and was formerly trained to the pursuit of larks, snipes, and young partridges.

It is a species, in point of geographical distribution, very widely spread, being found in all parts of Europe; and specimens I have obtained from India seem to be in every respect the same, with the slight exception of the colours of the female bird usually appearing paler.

In form as well as habits, the Kestrels (as Sir WM. JARDINE justly observes, in his edition of WILSON'S American Ornithology) differ from the species previously described; their wings being shorter, and the relative proportions of the feathers different. Their manner of *hovering*, and taking their prey by surprise, is also characteristic. To this subordinate group may be added the *Rusty-crowned Falcon* of the Fauna Borcali-Americana (the American Sparrow-Hawk of WILSON); whose habits seem to be intermediate between those of the Kestrel and Merlin; and some others belonging to that country, which PRINCE CHARLES BONAPARTE has separated from the larger Falcons. At the extremity of this group the Merlin appears to hold its station; whose habits, as well as the more rounded form of the wings, and the length of the toes, apparently lead back to the Sparrow-Hawks, or Accipitrine sub-family.

PLATE 17. A female bird, of the natural size.

The whole of the upper parts of the plumage are of a red-dish-orange, marked with numerous arrow-shaped black spots and bars. Tail having a broad black bar near the tip, which is white; the upper part reddish-orange, barred with black. Breast, belly, and thighs, pale buff;

General
Description.
Female
Bird.

* In the above interesting communication, I must call my reader's attention to the fact of the bird eating the insects when upon wing; a habit also seen, and much more constantly, in the genus *Elanus*, of which *Elanus furcatus* is the type.

streaked and spotted with brownish black. Quills brownish-black, margined with white; the two first having their inner webs deeply notched; the second and third with the outer webs strongly sinuated. The second quill rather longer than the third, which latter exceeds the first by more than half an inch.

The young male, for the first year, is very similar in plumage to the female bird.

PLATE 17 *. An adult male of the natural size.

Male Bird. Bill bluish-grey at the base, with the tip black, strong, the sides convex, the tooth prominent, and the posterior undulation of the cutting edge well marked. Cere and naked space round the eyes lemon-yellow. Irides brown. Forehead yellowish-white. Crown of the head, nape of the neck, and part of the shoulders, light clove-brown, with the shafts of the feathers blackish-grey. Back and wing coverts reddish-orange, each feather having an arrow-shaped black spot near its tip. Rump bluish-grey; tail the same, with a broad black bar near the tip, which is white. From the corners of the mouth is a dark greyish-black streak, running beneath the eye, and pointing downwards. Throat and chin yellowish-white. Breast, belly, and thighs pale buff-orange, inclining to light reddish orange, with brownish-black spots. Quills black, with the margins and tips greyish-white, and the inner webs barred with reddish-white. Legs and feet saffron-yellow. Claws black.

MERLIN.

FALCO ÆSALON, Temm.

PLATES XVIII. AND XVIII*.

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|---|--|
| <p>Falco Æsalon, <i>Temm.</i> Man. d'Ornith. 1. p. 27.—<i>Shaw's Zool.</i> 7. p. 196.—<i>Flem. Br. Anim.</i> 1. 50. 14.—Faun. Amer. Boreal. 2. 37. No. 11. pl. 25.</p> <p>Falco Emerillon, <i>Temm.</i> Man. d'Ornith. 1. p. 27.</p> <p>Falco Litho-Falco, <i>Lath.</i> Ind. Ornith. 1. 47. t. 115.—<i>Gmel. Syst.</i> 1. p. 278.</p> <p>—<i>Briss.</i> 1. p. 349. 8.—<i>Raii.</i> Syn. p. 14. 8.</p> <p>Falco cæsius, <i>Meyer</i>, Tasschenb. Deut. 1. p. 60.</p> <p>Le Rocier, <i>Buff.</i> Ois. v. 1. p. 286.—<i>Id.</i> Pl. Enl. 447.</p> <p>Stone Falcon, <i>Lath.</i> Syn. 1. p. 93. 77.—<i>Mont.</i> App. to Supp. of Ornith. Dict.—<i>Shaw's Zool.</i> v. 7. p. 182.</p> | <p>}
Synonyms of
Adult Male.</p> |
| <p>Falco Æsalon, <i>Gmel. Syst.</i> 1. p. 284. sp. 118.—<i>Lath.</i> Ind. Ornith. 1. 49. t. 119.—<i>Raii.</i> Syn. p. 15. 15.—<i>Briss.</i> 1. 332. 23.—<i>Will.</i> p. 50. t. 3.</p> <p>L'Emerillon, <i>Buff.</i> Ois. Pl. Enl. 468, young male.</p> <p>Merlin, <i>Br. Zool.</i> 1. No. 63.—<i>Will.</i> (Aug.) p. 85. t. 7.—<i>Lewin's Br. Birds.</i> 1. t. 22.—<i>Lath.</i> Syn. 1. p. 106. 93.—<i>Id.</i> Suppl. p. 27.—<i>Mont.</i> Ornith. Dict.—<i>Pull.</i> Cat. Dorset. p. 3.—<i>Low's Faun. Orcad.</i> p. 39.—<i>Walc.</i> Syn. 1. t. 22.—<i>Don.</i> Br. Birds, 4. t. 94.—<i>Bewick's Br. Birds.</i> 1. t. 41.—<i>Shaw's Zool.</i> 7. p. 196.</p> | <p>}
Synonyms of
Female, and
Immature
Males.</p> |

THE Merlin has generally been considered a winter or equatorial visitant, and to leave Great Britain at the approach of spring, for other and more northern climates. Repeated observation has, however, convinced me, that this opinion is incorrect; or, at least, that its migration is confined to the southern parts of the island.—It is certainly indigenous in Northumberland, and, I believe also, in parts of Cumberland and Westmoreland, as mentioned by Dr LATHAM. In the first named county, it resorts, during summer, to the extensive and upland moors, where it breeds, and where I have frequently met with its nest, which, in all the instances that have come under my notice, was placed upon the ground, amongst the heather, and not in trees, or in rocks, as TEMMINCK mentions in his “Manuel.” The number of the eggs is from three to five; they are of a bluish-white colour, marked with brown spots, principally disposed at the larger end. Nest, &c.

My readers will perceive, that, among the synonyms, I have included the *Stone Falcon* (*Falco Lithofalco* of authors), as I feel convinced that it is the male Merlin in adult plumage; the two agreeing in every respect, except that the irides of this supposed species are stated by SONNINI, and other writers (who appear to have faithfully copied his description), to be yellow, and those of the Merlin are brown. But an objection raised upon the colour of the eyes is certainly not of sufficient import to authorise the establishment of a distinct species; for I know from experience, that the colour of the iris cannot always be depended upon as a specific character, having repeatedly found it to vary in the Marsh Harrier, and in the Peregrine Falcon. As a further proof that the Merlin also is subject to variation in the colour of the iris, I must state that two, among many nestlings that I have at different times attempted to rear, displayed a marked difference from the rest in the colour of the iris; and, had they lived to attain maturity, would, I may safely say, have shewn yellow irides, being similar to those of the young Sparrow-Hawk, or young Hen-Harrier, viz. of a yellowish-grey colour; but which, with maturity, become yellow. The trivial name of *stone falcon* is perfectly appropriate to the Merlin, as it is very often to be seen perched upon a large stone amid the wide wastes that it frequents during the summer months. As autumn approaches, the Merlin descends to the lower grounds, or migrates to the southern parts of the kingdom.

Inferior as this species is in size, it fully supports the character of its tribe; frequently attacking birds superior to itself in magnitude and weight, and has been known to kill a partridge at a single blow.—Like others, before enumerated, it became subjected to the purposes of pastime, and was trained to pursue partridges, snipes, and woodcocks. Its flight is low and rapid, and it is generally seen skimming along the sides of hedges in search of its prey. In witnessing its attack upon a flock of small birds, I have been astonished

at the rapidity of its evolutions, and the certainty of its aim, as it never failed in securing and bearing off its victim, even though chosen from the centre of the flock.

PLATE 18. represents the adult male in the natural size.

Bill bluish-grey, the tip black ; strong, with the sides convex, and the tooth prominent. Crown of the head, and upper parts of the body bluish, or pearl-grey ; the shafts of the feathers being black. Tail bluish-grey, with a broad black bar near the end, which is white. Chin white.

General description.
Male bird.

Inferior parts buff-orange, with oblong, drop-shaped, blackish-brown spots. Under surface of the interior webs of the quill-feathers barred with white. Cere, legs, and eye-orbits yellow. Irides generally brown.

PLATE 18*. A female bird. Natural size.

Crown of the head dusky brown, streaked with black. Nape of the neck, and streak over the eyes white, spotted with brown. Back and scapulars brown, tinged with grey ; the feathers edged, and spotted with reddish-brown. Quills brownish-black, spotted or barred with reddish-brown. The two first quills having their inner webs abruptly and very deeply notched ; the second and third with their outer webs strongly sinuated. The first quill rather shorter than the fourth, the second and third of equal length. Under wing-coverts brownish-orange, spotted with white. Throat white. Breast and under parts yellowish-white, with broad, oblong, brown streaks. Tail dusky, with seven or eight yellowish-white, or pale reddish-brown bars.

Female bird.

The young are similar in plumage to the female bird.

SUBFAMILY BUTEONINA.

Bill weak, bending immediately from the base. Wings long and ample; the first four feathers having their inner webs notched near the tips. First quill short; the third and fourth generally the longest. Thigh feathers long and pendant. Tarsi partly naked, or clothed with feathers. Plumage soft and downy. In disposition, the members of this subfamily are, for the most part, sluggish and inactive, and devoid of the courage that distinguishes the other species of the Falconidæ. They pounce their prey upon the ground. In their affinities, they are nearly allied by some species (*Buteo borealis*, &c.) to the Goshawks (gen. *Astur*); and in the Harriers (gen. *Circus*), there is an evident approach to the owls in the radiated ruff surrounding the head.

GENUS BUTEO, *BECHST.* BUZZARD.

GENERIC CHARACTERS.

Bill rather weak, bending from the base; the cutting margin of the upper mandible slightly sinuated, and shewing an obtuse lobe; sides compressed, widening towards the base, where the culmen is broad and flat. Under mandible shallow, with the tip obliquely truncated. Cere large; nostrils rather pyriform, with the narrow end turning upwards and forwards. Wings long and ample; the first quill very short, and not exceeding the seventh in length; the second shorter than the fifth; the third and fourth the largest in the wing. The first four having their inner webs deeply notched; the third, fourth, and fifth with the outer webs obliquely sinuated. Legs with the tarsi short, naked, and scutellated in front, or feathered to the toes. Toes rather short; the front ones united at the base. Claws strong, but not much hooked.

The birds belonging to this genus are of large size, but generally of a heavy form and indolent aspect. Their plumage is soft, downy and loose, approaching in its texture to that of the *Owls*, which some of the species still further resemble in their partially crepuscular habits.* Their flight is easy and buoyant, but not remarkable for swiftness, and is generally in extensive circles. They prey upon the smaller birds and animals, as well as reptiles, for which they either watch, in sailing through the air, or (as is often the case) from some old tree or eminence, upon which they will remain perched for hours together. They strike their prey upon the ground, as they sweep over it, but make no attempt to capture it, when in motion, by active pursuit. In some species a close affinity to the *Goshawk* is perceptible, the proportion of the wings and form of the bill becoming more assimilated to those birds.

COMMON BUZZARD.

BUTEO VULGARIS, Bechst.

PLATE VI.

- Buteo vulgaris*, *Flem. Brit. Anim.* 1. 54. No. 21.—*Shaw's Zool.* 13. 46.—*Faun. Amer. Boreal.* 2. 47. pl. 27.
Falco Buteo, *Linn. Syst.* 1. p. 127.—*Fauna Suec.* No. 60.—*Gmel. Syst.* 1. p. 265. sp. 15.—*Lath. Ind. Ornith.* 1. p. 23.—*Raii, Syn.* p. 16. A. 1.—*Will.* p. 38. t. 6. i.—*Muller*, No. 64.—*Briss.* 1. p. 406.
Falco communis fuscus, *Gmel. Syst.* p. 270. sp. 86.
Falco variegatus, *Gmel. Syst.* 1. p. 267. sp. 78.—*Ind. Ornith.* 1. p. 24. 48.
Falco absolitus? *Lath. Ind. Ornith.* 1. 28. sp. 61.
La Buse, *Temm. Man. d'Ornith.* 1. p. 63.—*Buff. Ois.* 1. p. 206. t. 8.—*Id. Pl. Enl.* 419.
Mause Falk, *Meyer, Vög. Deut. Heft.* 14.—*Frisch, Vög. Deut.* t. 74.
Falco albidus, *Gmel. Syst.* 1. p. 267. sp. 49. white variety.
Common Buzzard, *Br. Zool.* 1. No. 54. t. 25.—*Id.* fol. t. A. 3.—*Arct. Zool.* p. 224. I.—*Will. (Ang.)* p. 70.—*Lath. Syn.* 1. p. 48.—*Id. Sup.* p. 14.—

* WILSON, when speaking of the *Buteo lagopus*, observes, "they are often seen coursing over the surface of the meadows, long after sunset, many times in pairs."—See WILS. *Amer. Orn.* ed. Sir W. Jardine, vol. ii. p. 54.

Mont. Ornith. Dict.—Ib. Sup.—Lewin's Br. Birds, l. t. 6.—Walc. Syn: 1. t. 6.—Shaw's Zool. 7. p. 109. Bewick's Br. Birds. 1. 15.—Pull. Cat. Dorset, p. 3.

Falco Gallinarius, Gmel. Syst. p. 266.

Ash-coloured Buzzard, Arct. Zool. 2. No. 103.—Lath. 1. p. 55.

Falco cinereus, Gmel. Syst. 1. p. 267.

Greater Buzzard, Lath. Syn. 1. p. 49.

Spotted Buzzard, Lath. Syn. 1. p. 49.

Buzzardet, Penn. Arct. Zool. 2. No. 109.

Speckled Buzzard, Lath. Syn. 1. p. 97.

Plain Falcon, Arct. Zool. 2. 104.

PROVINCIAL,—Puttock, Wood Buzzard.

THIS is a well-known species of Falcon, being of common occurrence in all the wooded districts of England. It is a heavy inactive bird, both in disposition and appearance, and is generally seen perched upon some old and decayed tree, such being its favourite haunt.

Its flight is slow, in extensive circles, and, except during the season of incubation, when it often soars to a considerable height, it seldom remains long on the wing.

Food.

It preys upon leverets, rabbits, game, and small birds, all of which it pounces on the ground. It also devours moles and mice, and, when pressed by hunger, will feed on reptiles and insects.

Nest, &c.

It breeds in woods, and forms its nest of sticks, lined with wool, hay, and other materials, and will sometimes occupy the deserted nest of a crow.

The eggs are two or three in number, larger than those of a hen, and are of a greenish-white, either plain, or spotted with reddish-brown. The young, according to PENNANT, remain in company with the parent birds for some time after having quitted the nest,—a circumstance at variance with the usual habits of birds of prey. It is common in all the wooded parts of Europe, and, according to TEMMINCK, very abundant in Holland. In France, this bird is killed during the winter for the sake of its flesh, which is esteemed delicious eating. Although previously unnoticed as a North American bird by WILSON and the PRINCE of MUSIGNANO, it was met with by the Expeditions under Captain FRANK-

LIN; and found to extend as far north as the 57th parallel of Latitude. It is described, and beautifully figured, in the second volume of the *Fauna Borcali-Americana*. It is also an inhabitant of the Madeiras; from whence I have seen specimens, agreeing in every respect with our own.

The Buzzard is found to vary greatly in plumage, and has consequently been multiplied, by some ornithologists, into several species, as will appear by a reference to the synonyms. I have constantly endeavoured to verify the several varieties that have come under my examination, by comparison with the descriptions and figures given by different ornithological writers; and amongst the varieties that have thus occurred, I may enumerate the Ash-coloured Buzzard of LATHAM and EDWARDS*, and one of a uniform reddish-brown colour.

PLATE 6. Figure of the natural size.

Cere and irides lemon-yellow. Bill bluish-black; broad at the base, but much compressed towards the tip; with the cutting edge of the upper mandible distinctly sinuated. Crown of the head and upper parts of the body hair-brown, inclining to broccoli-brown, the margins of the feathers edged with yellowish-white and yellowish-brown. Chin and throat white, with a few brown streaks upon the shafts of the feathers. Breast yellowish-white, with oblong brown streaks, which upon the belly become small and arrow-shaped. First four primary quills deeply notched, the basal part of the inner webs white, with brownish-black bars; the rest of the quills, and the secondary ones, barred with shades of brown. Third, fourth, and fifth quills having their outer webs strongly sinuated. Sides and thighs dark clove-brown, the feathers edged with white and yellowish-brown. Tail square, with about twelve blackish-brown bars. Legs and toes yellow. The front of the

General
description.

* Mr SWAINSON thinks that Mr EDWARD's bird refers to the *Cyrfalcon* in the young state, and has quoted it as such.

tarsi scutellated. The upper part of the toes reticulated. Toes short, united at the base by a membrane. Hind and inner toe each with four shield-shaped scales; outer toe with five; and the middle one with eight. Claws black, strong, but not much hooked; and very sharp.

ROUGH-LEGGED BUZZARD.

BUTEO LAGOPUS, Flem.

PLATE VII.

- Buteo Lagopus*, *Shaw's Zool.* 13. 47.—*Flem.* Br. Anim. 2. 54. No. 22.—*Faun. Boreali-Amer.* 2. 52. No. 16. pl. 28.
Falco Lagopus, *Gmel. Syst.* 1. p. 260.—*Lath. Ind. Ornith.* 1. p. 19. 33.—*Meyer*, *Tasschenb. Deut.* 1. p. 37.
Falco Slavonicus, *Lath. Ind. Ornith.* 1. p. 26. 54.
Falco spadiceus, *Lath. Ind. Ornith.* 1. 27. sp. 57, but not the synonyms of *Philosoph. Trans.*
Buse Pattue, *Temm. Man. d'Ornith.* 1. p. 65.
Buse Gantee, *Vail. Ois. d'Afr.* 1. pl. 18.
Rauchfussiger Busard, *Bork. Deut. Orn.* IIeft. female.
Rough-legged Falcon, *Penn. Br. Zool. Appen.*—*Lath. Syn.* 1. p. 75.—*Shaw's Zool.* 7. p. 145.—*Mont. Ornith. Dict.*—*Id. Suppl.*—*Brewick's Br. Birds*, Supp.—*Wilson's Amer. Ornith. edit.* by *Sir W. Jardine*, 2. 54. pl. 33. f. 1.
Dusky Falcon, *Penn. Arct. Zool.*
Placentia Falcon, *Lath. Syn. Suppl.* 19. sp. 57.

IN the Appendix to Pennant's British Zoology, a figure and short description are given of this bird, under the name of "the Rough-legged Falcon;" and in the Arctic Zoology of the same author, the bird described as the "Dusky Falcon" appears to be very safely referable to the same species. By many ornithologists the *Falco pennatus*, a bird belonging to the first or Aquiline section, has been confounded with this species, to which it bears a close resemblance, both in size and colour. It may, however, be readily distinguished by the form and size of its bill, and the uniform brown colour of the tail, which, in the bird now under description, is always more or less white at the base.

The Rough-legged Buzzard is a rare British species, and can only be considered as an occasional visitant. Occasional visitant.

MONTAGU mentions two or three instances of its having been taken in the south of England. In the winter of 1815, Northumberland was visited by some of these birds, and several opportunities were afforded me of inspecting both living and dead specimens.

Those which came under examination closely resembled each other as to colour and markings, though some individuals were darker along the belly than others; and the quantity of white upon the upper half of the tail was not always of equal breadth. Two of these birds, from having attached themselves to a neighbouring marsh, passed under my frequent observation.

Their flight was smooth, but slow, and not unlike that of the Common Buzzard, and they seldom continued for any length of time on the wing. They preyed upon wild ducks, Food. and other birds, which they pounced upon the ground; and it would appear that mice and frogs must have constituted a great part of their food, as the remains of both were found in the stomachs of those that were killed.

Since the above-mentioned year they have not been again seen in that neighbourhood.*

It is a native of Norway, and other northern countries of Europe, where it frequents marshy districts, preying upon leverets, hamsters, water-rats, moles, and frequently lizards and frogs. According to TEMMINCK, it builds in lofty trees, Nest, &c. and lays four white eggs, spotted with reddish-brown. In North America it is a common species, and possesses an extensive range, having been frequently seen in the districts

* Sir WILLIAM JARDINE, in his edition of WILSON'S American Ornithology (in a Note appended to the "Rough-legged Falcon"), mentions several that have subsequently been killed in East Lothian, and other southern districts of Scotland. A fine specimen, shot near Alnwick, in March 1828, was also sent to me. Scarcely a year passes without the appearance of this bird upon the rabbit-warrens in Norfolk.

traversed by the Expeditions under Sir JOHN FRANKLIN, though, from its very shy character, only one specimen could be procured. Dr RICHARDSON informs us, that “ a pair were seen at their nest, built of sticks, in a lofty tree, standing on a low, moist, alluvial point of land, almost encircled by a bend of the Saskatchewan. They sailed round the spot in a wide circle, occasionally settling on the top of a tree; but were too wary to allow us to come within gunshot.” Its residence in the Fur Countries is not however permanent, as it retires southwards in October, to winter upon the banks of the Delaware and Schuylkill; returning again to the north early in spring.

The figure at PLATE 7. represents a female bird, of the natural size, killed in the winter of 1815, and now in my possession.

General
description.

Bill bluish-black, darkest towards the tip; small and weak; bending rapidly from the base; the cutting margin of the upper mandible shewing only a faint sinuation. Commissure reaching rather beyond the anterior orbit of the eye. Cere and irides gamboge-yellow. Lores covered with small whitish feathers (shewing an approach to the genus *Pernis*), which are partly concealed by the bristly black hairs, disposed in a radiating form. Head, neck, and throat, yellowish-white, inclining to cream-colour, with slender streaks of umber-brown.

Breast yellowish-white, with large spots of umber-brown. Lower part of the belly umber-brown, forming a broad bend across that region. Thighs cream-yellow, with arrow-shaped, brown spots; the feathers very long and soft. Tarsi covered with feathers, colour cream-yellow, with a few brown specks.

Back and wing coverts umber-brown, the edges of the feather paler. Lower part of the inner webs of the greater quill-feathers white. Quills notched and sinuated, as in the *Common Buzzard*. Upper tail-coverts and

base of the tail white, the remaining part brown, banded with a darker shade of the same colour. Toes saffron-yellow, short; the inner stronger, and as long as the outer one. Hind and inner toes each having four large scales; the outer five; the middle toe seven or eight. Claws black; long, but not much hooked.

GENUS PERNIS, Cuv. HONEY-BUZZARD.

GENERIC CHARACTERS.

Bill slender, weak, bending gradually from the base to the tip; with the cutting margin nearly strait. Cere occupying half the length of the bill. Under mandible sloping gradually to the tip. Nostrils long, narrow, very obliquely placed in the cere, and opening forwards. Lores thickly clothed with small soft, tiled feathers. Wings long and ample; the first feather shorter than the sixth, and the third and fourth the largest in the wing. Inner webs of the first four notched, and the outer webs of the third, fourth and fifth sinuated. Tail long and slightly rounded. Legs having the tarsi half feathered; the lower, or naked part, being reticulated. Toes rather slender, the inner and outer ones of nearly equal length, the anterior joints of all scutellated. Claws weak, slightly hooked, with the inner edge of the middle one dilated.

This genus was first instituted by CUVIER, for the reception of the Common Honey-Buzzard and some other exotic species, distinguished from the other members of this subfamily, as well as from the rest of the *Falconidæ*, by the comparative weakness of the bill and claws, and by the close-set scale-like feathers that cover the lores, or that space between the bill and eyes; which part in all the rest is nearly naked of feathers, but provided more or less with stiff bristles, generally disposed in a radiating form.

The nearest approach to this genus (and by which it becomes closely allied to the other Buzzards) appears to be *Buteo Lagopus*, where a covering of small downy feathers is visible beneath the projecting hairs. The habits of its members, as might be expected, are in unison with this modification or departure from the typical character of the family, being still less fierce and predatory; subsisting almost wholly upon insects (particularly those of the *Hymenopterous* and *Neuropterous* orders) and the smaller reptiles. Their form is lengthened and graceful, and, from the extent of their wings and tail, they fly with great buoyancy and ease. Their plumage partakes of the softness belonging to the other birds of this subfamily.

HONEY BUZZARD.

PERNIS APIVORUS, Cuv.

PLATE VIII.

- Pernis apivorus*, Cuv. Reg. Anim. 1. 322.—*Flem. Br. Anim.* 1. 52. No. 17.
Falco apivorus, Linn. Syst. 1. sp. 130.—*Gmel. Syst.* 1. p. 267, sp. 28.—
Lath. Ind. Ornith. 1. 25. 52.—*Bass.* 1. p. 410.—*Id.* 8vo, p. 117.—*Raii*,
 Syn. 16. 2.—*Muller*, No. 68.
Falco Poliorinchos, Bechst. Tasschenb. Deut. v. 1. p. 19.
Buse Bondrée, Temm. Man. d'Ornith. 1. p. 67. 2d ed.
La Bondrée, Buff. Ois. 1. p. 208.—*Id.* Pl. Enl. 420. a yearling bird.
Wespen Buzzard, Meyer, Tasschenb. Deut. 1. p. 39.—*Id.* Vög. Liv. und.
 Esthl. p. 12.
Honey Buzzard, Br. Zool. 1. No. 56.—*Id.* fol. 67. t. A. 4. and A. + 4.—
 Arct. Zool. 2. p. 224. I.—*Will.* (Ang.) p. 72.—*Bewin's Br. Birds*, i. t. 1.
 —*Lath. Syn.* 1. p. 52.—*Sup.* p. 14.—*Albin.* 1. t. 2.—*Mont. Ornith. Dict.*
 and Suppl.—*Pult. Cat. Dorset.*—*Walc. Syn.* i. t. 7.—*Bewick's Br. Birds*,
 1. 17.—*White's Hist. Selb.* 1. t. 7.—*Shaw's Zool.* v. 7. p. 114.

PROVINCIAL,—Capped Buzzard.

Rare visi-
tant.

THIS rare and elegant species is easily to be distinguished from all its congeners, by the small, round, and closely-set feathers that cover the space between the bill and eyes, which space in the other species is either naked, or but thinly covered with bristles or hairs. This peculiarity has induced

CUVIER to separate the Honey Buzzard from the preceding genus, and to form of it and a few other foreign species, possessing the same character, his genus *Pernis*.

The instances of this bird being killed in England are but few. LATHAM says, that during such a number of years as he has been a collector, he has received but one fresh specimen. I have never met with it in a living state, nor been able to obtain it newly killed; and I am indebted for the figure in the present work to the polite attention of N. A. VIGORS, Esq. who kindly lent me, for that purpose, the very fine specimen he possesses *. Rare visitant.

MONTAGU describes one, taken at High Clere in Berkshire (and now in the British Museum), that had the breast and belly of a light brown, barred with reddish-brown, which, according to that accurate ornithologist TEMMINCK, is characteristic of the female, or a young bird.

The young, during the first year, or previous to the first general moult, have the cere and iris brown, and the head spotted with white and brown.

The Honey Buzzard preys upon moles, mice, and small birds, and on lizards and insects, particularly wasps, bees, and their larvæ, which should appear to be their favourite food.

WILLOUGHBY describes a nest of this bird, in which he found the limbs of wasps, and fragments of the nymphæ in the stomachs of the young ones, whose craws contained also several lizards and frogs.

Its flight is easy and graceful, and it is frequently seen

* Since the publication of the first edition of this volume, a very fine male of this species was shot, in September 1829, in Thrunton Wood, Northumberland, by the keeper of the Hon. H. T. LIDDLE, of Eslington House; a description of which was published in the first volume of the Transactions of the Natural History Society of Northumberland, Durham, and Newcastle-upon-Tyne. Another beautiful variety, with white head and neck, was killed, in October 1831, at Cheswick, near Berwick on Tweed, and kindly presented to me by Mr DONALDSON. This bird is described in the 2d volume of the Transactions above mentioned.

near pieces of water, on account of the Libellulæ, and other aquatic insects.

Nest, &c. It breeds in lofty trees, forming a nest of twigs, lined with wool, and other soft materials.

The eggs are small, in proportion to the size of the bird, of a yellowish white, marked with numerous spots and stains of reddish-brown, sometimes so confluent as to make them appear almost entirely brown.

It is a native of eastern climes, and, according to TEMMINCK, is as rare in Holland as in England. In the south of France it is more abundant, but migratory.

PLATE 8. Figure of the natural size.

General
descrip-
tion.

Bill bluish-black; slender, and weak; bending gradually from the base to the tip; with the commissure nearly straight. Cere greenish-grey. Irides yellow. The space between the eyes and bill covered with small, round, and closely-set feathers. Crown of the head clove-brown, tinged with bluish-grey. Upper parts umber-brown, more or less varied, and edged with clove and yellowish-brown. Throat yellowish-white, with a few brown streaks down the shafts of the feathers. Under parts yellowish-white, occasionally tinged with buff-ange; with bars and triangular spots of chesnut-brown. Tail long, umber-brown, with three blackish-brown bars. Feet and tarsi yellow, reticulated, and feathered a little below the knee. Claws black, and not much hooked.

GENUS *CIRCUS*, BECHST. HARRIER.

GENERIC CHARACTERS.

Bill bending from the base, weak, much compressed, and forming a narrow rounded culmen; the tomia of the upper mandible exhibiting a very small festoon or sinuation near

the middle of the bill. Under mandible shallow, and rounded at the point. Nostrils rather large, broadly oval, and nearly concealed by the reflected and upward-curving hairs of the lores. Head surrounded by a ruff of stiffish tiled feathers. Wings long, with the fourth feather scarcely exceeding the third, but being the longest in the wing; first four having their inner webs notched; the third, fourth, and fifth, with the outer webs, sinuated. Tail long, and slightly rounded. Legs with the tarsi long and slender, feathered in front for a short distance below the joints, with the naked part scutellated. Toes of mean length, and rather slender; middle toe the longest; the outer rather exceeding the inner, and joined at the base to the middle one by a membrane; third toe shortest. Claws moderately incurved, and very sharp; those of the inner and hind toes the largest.

The birds of this genus are distinguished from the more typical Buzzards, by their prolonged and slender form, their lengthened tarsi, and the distinct ruff of close-set feathers, which, as in the *Owls*, surrounds the face. In their habits they are more active than the other birds of this subfamily; and their flight, though not remarkable for swiftness, is light and buoyant, and can be supported for a long time (though generally at no great elevation) in search of their prey, consisting of birds, small mammalia, and reptiles, all of which they pounce on the ground. In the form of the bill, the reflected bristles of the lores, and the peculiar ruff surrounding the face, they shew a decided affinity to the succeeding family of *Strigidae*, particularly to the birds of that group which, from their habit of hawking in the day-time, have obtained the name of *Accipitrine Owls*.

MARSH HARRIER.

Circus rufus, *Briss.*

PLATE IX.

Syn. of
Adult.

- Circus æruginosus*, *Shaw's Zool.* 13. 41.
Buteo æruginosus, *Flem. Br. Anim.* 1. 55. 25.
Falco rufus, *Lath. Ind. Ornith.* v. 1. p. 25. 51.—*Gmel. Syst.* 1. p. 266. 77.
Circus rufus, *Briss. Ornith.* v. 1. p. 404.
Circus palustris, *Briss.* 1. p. 401.
La Harpaye, *Buff. Ois.* v. 1. p. 217.—*Id. Pl. Enl.* 460.
Busard Harpaye, ou de Marais, *Temm. Man. d'Ornith.* 1. 69. 2d ed.
Brandweihe, *Bechst. Tasschenb. Deut.* p. 24. sp. 19.
Harpy Falcon, *Lath. Syn.* 1. p. 51.

Syn. of
Young.

- Falco æruginosus*, *Lin.* 1. p. 130.—*Fauna Suec. No.* 66.—*Gmel. Syst.* 1. p. 267.—*Lath. Ind. Ornith.* 1. 25. 53.—*Raii Syn.* p. 17. A. 4.—*Muller*, No. 69.
Falco arundinaceus, *Bechst. Naturg. Deut.* v. 1. p. 681. 19.
Le Busard de marais, *Buff. Ois.* 1. p. 218.—*Id. Pl. Enl.* 424. a yearling bird.
Sumpfweihe, *Meyer, Taschenb. Deut.* v. 1. p. 43.
Moor Buzzard, *Br. Zool.* 1. No. 57. t. 27.—*Id. fol.* p. 67. t. A. 5.—*Arct. Zool.* 2. p. 225. 1.—*Lath. Syn.* 1. p. 53.—*Id. Suppl.* 15.—*Mont. Ornith. Dict.* 2 vol.—*Will. (Ang.)* p. 75. t. 7.—*Lewin's Br. Birds*, 1. t. 8.—*Walc. Syn.* 1. t. 8.—*Pult. Cat. Dorset.* p. 3.—*Bewick's Br. Bird*, 1. 19.

PROVINCIAL,—Duck Hawk, White-headed Harpy, Moor Buzzard.

General
description.
Female
bird.

THE female bird of this species, which is represented on Plate 9, measures twenty-three inches in length, and in breadth, with extended wings, four feet five inches. The bill is bluish-black. The cutting edge of the upper mandible has a very slight festoon. Cere lemon-yellow. Nostrils covered with the upturned bristles of the front part of the lores. Irides blackish-brown. Crown of the head, throat, and cheeks, straw-yellow, streaked with brown. Behind the ear-coverts, and surrounding the neck, is a ruff of stiffish feathers. Upon the ridge of the wing, a patch of straw-yellow. The rest of the body of dark umber-brown, passing upon the belly into reddish-brown. Legs long, the tarsi slender, and, together with the toes, yellow. Claws black.

Male bird. The male, taken at the same time, is rather inferior in size, and of an uniform umber-brown colour, with the exception

of a small spot of the straw-yellow upon the occiput. And in him the irides are yellow.

The young differ from the adult birds in being without the straw-yellow upon the head or wing-coverts. Varieties of this species, with more or less white, are also frequently found.

I kept one of these birds in confinement for some years, in which the throat, bastard-wing, the first four quill-feathers, and the outer tail-feathers, were of a pure white. The rest of its plumage was of dark umber-brown.

Marshy districts and moors are the favourite haunts of **Food.** this species. They prey on wild ducks and other water-fowl, young game, leverets, and water rats. Lizards and frogs also form a great portion of their food; and they will sometimes take perch, and other kinds of fish.

Their flight is slow, and generally near the ground, beating it with great regularity in search of their prey; but during the season of incubation, the males will soar to a considerable height, and remain suspended in the air for a long interval of time. They build in the tall tufts of grass or rushes which grow in marshy places, and lay four or five round eggs, entirely white; and not spotted with brown, as asserted in the *Index Orpithologicus* of LATHAM.

These birds abound in all the marshy districts of England and Scotland, and, according to MONTAGU, are very numerous in Wales, where they prey upon the rabbits that inhabit the sand-banks of the shores of Caermarthenshire. The same writer observes, that he has seen no less than nine feeding together upon the carcass of a sheep.

In Holland they are of course numerous, from the nature of the country; and rare in Switzerland.

They are migratory upon the Continent, but remain with us the whole year.

The affinity between this species and the Hen Harrier, is shewn in the general contour of the form, the length of the tarsi, and in the similarity also of their habits and manners.

HEN HARRIER.

Circus cyaneus, Flem.

PLATE X.

- Male and Female. { *Circus cyaneus, Flem. Br. Anim.* 1. 53. 20.
Falco cyaneus, Mont. Trans. Linn. Soc. v. 9. p. 182.—*Meyer, Taschenb.*
Deut. v. 1. p. 182.
- Syn. of Adult and middle-aged Male. { *Falco cyaneus, Gmel. Syst.* 1. p. 276.—*Linn. Syst.* 1. p. 126. 10.—*Lath. Ind. Ornith.* 1. 39. 94.—*Muller, No.* 74.
Falco torquatus (mas.), Briss. Ornith. 1. p. 345.—*Id.* 8vo, p. 100.
Falco Bohemicus, Gmel. Syst. 1. p. 299. sp. 107.—*Falco albicans, Id.*
p. 276. sp. 102.
Falco griseus, Gmel. p. 275. sp. 100.—*Lath. Ind. Ornith.* 1. p. 37, 86.
Falco montanus, Gmel. 1. p. 278. sp. 106. var. B.
Ianarius cinereus, Briss. 1. p. 365. 17.—*Id.* 8vo, p. 106.
L'Oiseau St Martin, Buff. Ois. v. 1. p. 212.—*Id. Pl. Enl.* 459.
Busard St Martin, Temm. Man. d'Ornith. 1. p. 72.
Busard à croupion blanc, Vail. Ois. d'Afrique. Sept. v. 1. Pl. 8.
Kore oder Halbweihe, Bechst. Tasch. Deut. p. 25. sp. 20.
Hen Harrier, Brit. Zool. 1. No. 58. t. 28.—*Will. (Angl.) p.* 72.—*Albin,*
2. t. 5.—*Lath. Syn.* v. 1. p. 88.—*Id. Suppl. p.* 22.—*Lewin's Birds,* 1.
t. 18.—*Hayes' Br. Birds.—Mont. Ornith. Dict.* v. 1.—*Id. Suppl.—*
Walc. Syn. t. 17.—*Bewick's Br. Birds,* 1. p. 33.—*Pull. Cat. Dorset.*
p. 3.—*Don. Br. Birds,* 3. t. 59.—*Low's Fau. Orcad. p.* 37.—*Shaw's*
Zool 7. p. 163.
New York Falcon, Penn. Arct. Zool. 2. p. 209.
- Syn. of Female and Young. { *Falco Pygargus, Linn.* 1. p. 126. 11.—*Gmel. Syst.* 1. p. 277. sp. 11.—
Lath. Ind. Ornith. 1. p. 39. 94.—*Raii Syn.* p. 17. 5. (fem.)—*Muller,*
No. 74.—*Will.* p. 40.
Falco Hudsonii et Buffonii, Gmel. 2. p. 277. sp. 19. and 103.
Falco rubiginosus, Lath. Ind. Ornith. 1. p. 27. sp. 56.
Falco torquatus (fem.), Briss. 1. p. 345. 7.—*Id.* 8vo, p. 100.
La Soubuse, Buff. Ois. v. 1. p. 215. t. 9.—*Id. Pl. Enl.* 443. young female,
and 480, young male.
Le Busard Grenouillard, Vail. Ois. d'Afrique. 1. Pl. 23.
Ring-tail, Br. Zool. 1. No. 59.—*Id. fol. p.* 68. t. A. 7.—*Lath. Syn.* 1.
p. 89. 95.—*Id. Supp. p.* 22.—*Mont. Ornith. Dict.—Id. Sup.—Lewin's*
Brit. Birds, 1. t. 18.—*Will. (Ang.) p.* 72.—*Walc. Syn.* 1. t. 18.—
Bewick's Br. Birds, 1. p. 35.—*Shaw's Zool.* 7. p. 163.
Ring-tail Hawk, Edwards, t. 107.—*Arct. Zool.* 2. No. 106.
White-rumped Bay Falcon, Lath. Syn. 1. p. 54.
Hudson's Bay Ring-tail, Lath. Syn. 1. p. 91. 76.
Cayenne Ring-tail, Lath. Syn. 1. p. 91.
Marsh Hawk, Wils. Amer. Orn. ed. by Sir Wm. Jardine, 2. 272. pl. 51.
fig. 2.

THE above long list of synonyms arises from this bird having been considered by many ornithological writers as two distinct species,—a mistake doubtless occasioned by the very

disimilar appearance of the sexes in the adult state, with respect to size and colour. The facts, however, adduced by MONTAGU *, to prove the identity of the two, are clear and satisfactory; to me particularly so, as the result of my own observations lead entirely to the same opinion. Mons. TEMMINCK, also, in his valuable "Manuel," has shewn so little doubt upon the subject, as at once to bring the synonyms of the Hen Harrier and Ring-tail together.

The species, though not very numerous, is pretty generally found throughout Britain, frequenting low marshy situations, or wide moors. The flight of the Hen Harrier is always low, but at the same time smooth and buoyant, beating its hunting grounds with great regularity, and at stated intervals. It is very destructive to game, which it pounces upon the ground; it also feeds upon small birds and animals, lizards and frogs. It breeds on the open wastes, and frequently in thick furze covers; the nest is placed on the ground, and the eggs are four or five in number, of a skim-milk white, round at each end, and nearly as large as the Marsh Harrier†.

Food.

Nest, &c.

The young males, for the first year, are similar in appearance to the females, after which they gradually assume the grey plumage that distinguishes the adult.

It is common in France, Germany, and Holland, inhabiting the low and flat districts; but in Switzerland, and all mountainous countries, it is of rare occurrence‡.

PLATE 10. Fig. 1. Shews the male bird, in perfect plumage, and of the natural size.

* See Supplement to Ornith. Dict. article *Hen Harrier*.

† I refer my readers to some very interesting particulars respecting the habits and economy of this species, detailed at considerable length by Sir William Jardine, in a note to his valuable edition of Wilson's American Ornithology.

‡ Some doubts still remain as to the identity of our own and the American species.

General
descrip-
tion.

Male bird.

Bill bluish-black. Cere wax-yellow, almost hidden by the projecting bristles at the base of the bill. Irides king's-yellow. Head, neck, upper part of the breast, back, scapulars, and wing-coverts, bluish-grey, passing into pearl-grey. The rump white. Quills black. Breast, belly, under wing and tail-coverts, pure white, without any *spots* or *streaks*, as in the Ash-coloured Harrier. Middle tail-feathers grey; the outer ones having their inner webs white, barred with blackish-grey. Legs and toes lemon-yellow.

Fig. 2. The female.

Female.

The space surrounding the orbits of the eyes white. Crown of the head and ear-coverts umber-brown. The ruff composed of stiff white feathers, with brown shafts. Upper parts umber-brown, more or less varied with yellowish or reddish-brown. Quills dusky, barred underneath with white. Breast, belly and thighs yellowish-white, with long streaks of deep orange-brown. Rump white. Tail barred with clove and umber-brown. Legs yellow.

ASH-COLOURED HARRIER.

CIRCUS CINERACEUS, Shaw.

PLATE XI.

Circus cineraceus, Shaw's Zool. 13. 41. sp. 3.

Buteo cineraceus, Flem. Br. Anim. 1. 55. No. 26.

Falco cineraceus, Mont. Ornith. Dict.—Id. Suppl.—Trans. Lin. Soc. 9. p. 188.

Busard Montagu, *Temm. Man. d'Ornith.* 1. p. 86.

Die Halbweihe, *Naum Vog.* 4. p. 180. t. 21. p. 33.

Ash-coloured Falcon, *Montagu, Ornith. Dict.—Id. Suppl.*

The British Fauna is indebted to the persevering researches and acute discrimination of our countryman MONTAGU for

the discovery of this new species of falcon, the description of which he has most accurately given in the Supplement* to the work I am so often proud to quote. The resemblance it bears to the Hen Harrier was without doubt the cause of its remaining so long unnoticed as a separate species, having in all probability, when previously met with, been considered only as a variety of that bird.

The specific distinctions are, however, when subjected to the test of strict examination, obvious and well defined.

The leading points of difference are the following.

Though greatly inferior in weight, it exceeds the Hen Harrier considerably in dimensions, both as to length and extent of wing.

The third quill-feather is much longer than any of the others, and its wings, when closed, reach beyond the extremity of the tail; whereas in the *Circus cyaneus*, they are shorter than the tail by two inches. The colour of the under wing-coverts, the belly, and thighs, is also very different. The ruff which encircles the back part of the head, and neck of the Hen Harrier, is not so distinctly marked in this species. The general contour and appearance of the two birds will be found, on comparison, to be very different. A close attention to the respective descriptions will also discover other minor traits of separation.

The Ash-coloured Harrier is far from being numerous in England. I have taken it in Northumberland, where it breeds upon the moors or open lands.

It skims along the surface of the ground, like the Hen Harrier, but with more rapid flight, and more strikingly buoyant. Lives upon small birds, lizards, frogs, &c. Its Food. nest is placed upon the ground, amongst furze or low brush- Nest, &c. wood. The eggs are generally four, and of a pure white.

According to TEMMINCK, it is found throughout Hungary, in Poland, Silesia, and Austria. It is common also in Dalmatia and the Illyrian Provinces, but is of rare occurrence in Italy.

* See article *Ash-coloured Falcon*.

PLATE 11. A male bird, of adult age, and of natural size.

Killed near Morpeth in Northumberland in 1817.

General
description.

Male bird.

Bill bluish-black. Cere lemon-yellow. Irides yellow. Head and upper parts of the body deep ash-grey, the tips and middle parts of most of the feathers blackish-grey. Throat and breast deep ash-grey. Belly, sides, and thighs, white, with reddish-brown streaks. Under wing-coverts barred with reddish-brown. Primary quills black; secondaries ash-grey above, beneath paler, with three blackish bars, one of which is visible on the outer side of the wing. Tail long, the two middle feathers grey, with a tinge of brown; the rest grey on the outer web, the inner having five reddish-brown bars. Legs slender and yellow. Toes short, the claws black.

Since the above-mentioned year, I have killed two male specimens of this bird, both of which answered the foregoing description.

Female.

Bill bluish-black. Cere wax-yellow. Irides bright yellow, Crown of the head reddish-brown, with blackish-brown spots. Nape of the neck varied with orange-brown and white. Above and below the eye, is a streak of pale reddish-white. Ear-coverts deep umber-brown. Upper parts of the body umber-brown, the feathers margined with pale orange-brown. Lower part of the rump and the tail-coverts white, streaked with pale orange-brown. The whole of the under parts orange-brown, without *spot* or *streak*. Tail, having the two middle feathers nearly of an uniform brown, the rest being barred with pale orange-brown and umber-brown, except the outer feathers, which are barred with orange-brown and white.

The young males, previous to the first moult, are similar in plumage to the female bird.

SUBFAMILY MILVINA.

Bill of moderate strength, nearly strait at the base. Feathers upon the head and neck, narrow and acuminate. Nostrils placed rather obliquely. Wings very long; the first quill-feather short. Tarsi scaled, short, feathered for a short space below the knee. Tail more or less forked. Prey pounced upon the ground, or, when consisting of insects, caught in the air. Flight very buoyant, with little exertion of the wings, and in wide circles.

GENUS MILVUS, *Auct.* KITE.

GENERIC CHARACTERS.

Bill of moderate strength, nearly strait at the base; rapidly incurved in front of the cere to the tip, which forms an acute hook. Culmen subangular. Cutting margin of the upper mandible with a shallow lobe or festoon between the line of the nostrils and the tip. Upper mandible rounded at the tip. Cere short; nostrils oval; rather obliquely placed in the cerc. Feathers of the head and neck acuminate. Wings very long; the first feather short, more so than the seventh; the fourth the longest of all; the first five having their inner webs notched; the second, third, fourth, and fifth, with the outer ones, the same. Tail long, more or less forked. Legs with the tarsi very short; feathered below the joint; the naked frontal part scutellated. Toes rather short, and strong, the outer united at its base to the middle one. Claws long and strong, moderately incurved, with the inner edge of the middle one thin and dilated.

The birds of this genus are distinguished for their graceful and easy flight, which is performed by little exertion of

their pinions, in extensive circles, and in which they are guided by the elongated and forked form of their tail. To the preceding genera of the Buzzards they shew a strong affinity, both in form and habits, though their forked tail, and greater development of wing, are sufficient characteristics of separation. In shape of bill, and other particulars, they approach to some of the earlier groups of the Aquiline subfamily; thus supporting that circular arrangement of affinities which prevails throughout all the lesser, as well as the more extensive, divisions of creatures. They are birds of rather a cowardly disposition, and seldom attack prey of great size, confining themselves to the lesser birds, animals, reptiles, fish, &c. They pounce their prey upon the ground.

KITE OR GLEAD.

MILVUS VULGARIS, Flem.

PLATE V.

- Milvus vulgaris, Flem.* Br. Anim. 1. 51. pl. 16.
Falco Milvus, Linn. Syst. 1. p. 126. 12.—Faun. Suec. No. 57.—*Gmel.* Syst. 1. p. 261.—*Will.* p. 41. t. 6.—*Raii* Syn. p. 17. A. 6.—*Lath.* Ind. Ornith. 1. p. 20. 37.—*Meyer*, Tasschenb. Deut. v. 1. p. 25.
Milvus regalis, Briss. 1. p. 414. 35. t. 33.—*Id.* 8vo. p. 118.
 Re Milan Royal, *Buff.* Ois. v. 1. p. 197.—*Id.* Pl. Enl. 422.—*Temm.* Man. d'Ornith. v. 1. p. 59.
 Rother Milan, *Bechst.* Tasschenb. Deut. v. 1. p. 13.
 Kite, Br. Zool. 1. No. 53.—*Id.* fol. t. A. 2.—*Aret.* Zool. 2. p. 223. H.—*Will.* (Ang.) p. 74.—*Lewin's* Br. Birds, 1. t. 10.—*Lath.* Syn. 1. p. 61. 43.—Sup. p. 17.—*Mont.* Ornith. Dict.—*Id.* Suppl.—*Bewick's* Br. Birds, 1. p. 21.—*Haye's* Br. Birds. 1. t. 5.—*Shaw's* Zool. 7. p. 103.—*Pull.* Cat. Dorset, p. 3.—*Walc.* Syn. 1. t. 10.—*Don.* Br. Birds, 2. t. 47.
Falco Austriacus, Gmel. Syst. 1. p. 262.—*Lath.* Ind. Ornith. 1. t. 39.
 Austrian Kite, *Lath.* Syn. 1. p. 62. 45. young bird.

PROVINCIAL,—Puttock, Fork-tail Glead.

THIS beautiful species, distinguished from the rest of our native Falconidæ by its forked tail, is the only British indigenous member of the fifth subfamily.

Its measurements are considerable, in proportion to the weight of its body, as it frequently exceeds two feet two inches in length, and five feet along the extended wings.

The Kite is variously diffused throughout England, being a common bird in many parts of the country, and rare in others. In all the wooded districts of the eastern and mid-land counties it is abundant: it is also met with in Westmoreland; but is seldom seen in the northern parts of Yorkshire, in Durham, or Northumberland.

In Scotland, it occurs plentifully in Aberdeenshire, and is found also in the immediate vicinity of Loch Katterine, and of Ben Lomond; also at Loch Awe, and in the adjoining district.

It is proverbial for the ease and gracefulness of its flight, which generally consists of large and sweeping circles, performed with a motionless wing, or at least with a slight and almost imperceptible stroke of its pinions, and at very distant intervals. In this manner, and directing its course by aid of the tail, which acts as a rudder, and whose slightest motion produces effect, it frequently soars to such a height as to become almost invisible to the human eye.

The prey of the kite consists of young game, leverets, rats, mice, lizards, &c. which it takes by pouncing upon the ground. It is a great depredator in farm-yards, after chickens, young ducks, and goslings; and is in consequence bitterly retaliated upon as a common enemy in those districts where it abounds.* Food.

It will also, under the pressure of hunger, devour offal and carrion, and has been known to prey upon dead fish.

Some very curious and interesting facts in the history of the Kite are mentioned by MONTAGU*, which shew how completely unguarded or insensible to danger predacious birds are, when intent upon their prey, or urged by the cravings of hunger.

It breeds early in the spring, in extensive woods, generally

* See Supplement to Ornith. Dict. article *Kite*.

Nest, &c. making its nest in the fork of a large tree. The nest is composed of sticks, lined with wool, hair, and other soft material.

The eggs are rather larger than those of a hen, and rarely exceed three in number. They are of a greyish-white, speckled with brownish-orange, principally at the larger end; but sometimes they are found quite plain.

According to TEMMINCK, it is met with in the different departments of France; throughout Italy, Switzerland, and Germany. In Russia it is not common, and is rare in Holland.

Upon the Continent, it generally migrates in autumn; but it remains with us through the whole year.

The figure represented in PLATE 5. is from a female bird, of middle age, and in the proportion of three-fifths of the natural size.

General
description.

Bill yellowish-brown at the base, towards the tip blackish-brown. Cere and irides king's-yellow. Head and neck greyish-white, streaked with lines of dusky-black, occupying the centre of the feathers, which are narrow, and sharp-pointed. Upper parts of the body and wing coverts reddish-orange, the middle of the feathers brownish-black, the edges buff-orange. Breast, belly and thighs, reddish-orange, with streaks of brownish-black. Vent and under tail-coverts plain reddish-orange. Tail long, and deeply forked, reddish-orange, with the tips of the feathers reddish-white. Under side of the tail reddish-white, barred with blackish-brown. Primary quills brownish-black; the secondary ones blackish brown, passing into blackish-grey. Thighs adorned with long plumes. The tarsi short and scaled, of a Dutch-orange colour. Claws bluish-black, and not much hooked.

GENUS ELANUS, SAVIGNY. ELANUS.

GENERIC CHARACTERS.

Bill weak, of mean length, compressed, nearly straight at the base, the tip hooked. Wings long, with the second feathers generally the longest. The first and second having their inner web strongly notched. Tail long, more or less forked. Legs with the tarsi short, feathered for half their length; the naked part of the tarsus being reticulated. Claws strong, and incurved; the under surface, in some species, partly rounded.

The birds of this genus, like the Kites, are remarkable for their graceful circling flight. In them the bill is of weak conformation, and with a very slight indication of a festoon upon the upper mandible. The tarsi are short, and feathered half way along the front. The toes are *separate*, and, in some species, the side and hind claws are rounded beneath, as in the genus *Pandion*. Their food consists of reptiles, &c., but more particularly of the larger insects, which they capture with their feet, and then devour *in the air*. They seem to represent the *fissirostral* tribe of the Insectores among the Falconidæ.

SWALLOW-TAILED ELANUS.

ELANUS FURCATUS, Savigny.

- Elanus furcatus*, Shaw's Zool. 13. 49. sp. 2.
Naucleus furcatus, Vig. in Zool. Journ. No. 7. 387.—Lesson's Num. d'Ornith. 1. 101.
Falco furcatus, Linn. Syst. 1. 129. 25.—Gmel. Syst. 1. 262.—Lath. Ind. Orn. 1. 22. sp. 41.—Linn. Trans. 14. 583.
Milvus Carolinensis, Briss. 1. 418. 36.
 Milan de la Caroline, Buff. Ois. 1. 221.—Cuv. Reg. Anim. 1. 322.
 Swallow-tailed Falcon, Penn. Arct. Zool. 2. No. 108. t. 10.—Lath. Syn. 1. 60. 42.
 Swallow-tailed Hawk, Wils. Amer. Orn. 6. 67. pl. 51. f. 3.—Id. Ed. Sir Wm. Jardine, 2. 275. p. 51. fig. 3.—Audubon's Pl. 72.—Id. Orn. Biog. 1. 361.

Occasional
visitant.

I ~~INSERT~~ this elegant species in the list of our fauna as an occasional visitant, upon the authority of two specimens ; one of which was killed at Ballacholish, in Argyleshire, in 1772, and recorded by the late Dr WALKER in his *Adversaria* for 1772 and 1774 ; the other was taken alive in Shaw-Gill near Hawes, in Wensley-dale, Yorkshire, in September 1805, and mentioned in the 14th Vol. of the Linnean Transactions, p. 183. In the Southern States of North America, in Peru and other parts of South America, it is an abundant species ; but, according to AUDUBON, has never been seen to the north or eastward of Pennsylvania. From the description given of it by that practical ornithologist, and from that of the not less gifted WILSON, (to both of which I must, on account of their length, refer my readers,) the habits of this, and, I believe, of the other species of *Elanus*, differ in many essential particulars from those of the more typical *Falconidae*.

Food.

The prey of this bird, whether consisting of reptiles or of insects, taken upon wing, either in their flight, from the surface of the ground, or from the branches and trunks of trees, is invariably devoured *in the air*. It is remarkable for the gracefulness of its motion on wing, and the extraordinary evolutions it performs when in pursuit of its insect prey. Contrary to the habits of the other Falcons, it is gregarious, being frequently seen in great numbers together, and so unwilling is the flock to desert a companion in distress, that when one is shot or wounded, instead of flying from the danger, they all assemble over the dead or dying bird, and continue to hover over it, even after being repeatedly fired at, and having their numbers diminished by each successive discharge *. It breeds, according to AUDUBON, in the tops of the highest oak and pine trees near the margin of ponds and streams, making a nest similar in external appearance to that of the crow ; formed outwardly of dry sticks intermixed with Spanish moss, and lined with coarse grass and a few feathers.

Nest, &c.

* See AUDUBON'S Ornith. Biograph. vol. 1. p. 368. article *Swallow-tailed Hawk*.

The eggs, from four to six in number, are of a greenish-white, with a few irregular blotches of dark brown at the larger end. The young, when excluded, are covered with a buff-coloured down, above which succeeds plumage very similar to that of the adult, but destitute of its lustre and purple reflections. This they retain till spring, when it becomes matured.

The average size of this species appears to be about twenty-^{General} five inches in length, by four feet two or three inches ^{descrip-} in extent of wings. The bill is black, of mean strength; the cutting margins without a sinuation. The cere yellow, or, according to AUDUBON, pale blue; its base covered with bristles. The head, neck, and under plumage, white, with a slight tinge of grey; the shafts of the feathers indicating a dark line upon the head, neck, and breast. Mantle, wing-coverts, and scapulars, black, with blue and purple reflections. Quills black; the third the longest in the wing; the first being equal to the fifth. Tail of twelve feathers; and very deeply forked; the lateral ones much elongated, black, with green and purple reflections. Legs greenish-blue; the tarsi very short, feathered half way down the front; the naked part covered with reticulated scales. Toes short and divided; the anterior joints scutellated. Claws much incurved, acute; their colour flesh-red.

· FAMILY IV.—STRIGIDÆ.

The Owls or nocturnal birds of prey, which form the fourth natural family of the order *Raptores*, are distinguished by a peculiarity of physiognomy, that at once separates them from all the others, and cannot fail to make them at once cognizable by the most cursory observer. For, though nearly related as they undoubtedly are in direct affinity with the Falconidæ, it cannot but be allowed, that a certain gradation of form is wanting (either as yet undiscovered, or no

longer existing) to fill up the chasm which at present separates the nearest resembling members of the two families, and which appear to be some species of the genus *Circus* among the Falconidæ, and the Accipitrinæ or *Hawk Owls* among the Strigidæ. By their near affinity also to the *Caprimulgidæ* (Goatsuckers), particularly seen in the genus *Podargus*, the connection between the Insessorial and Rapacious birds is beautifully sustained, though a similar deficiency of intermediate forms is even in this case observable. By far the greatest proportion of the *Strigidæ* are nocturnal or crepuscular feeders, sallying forth from their concealed retreats towards the close of day, when other birds are retiring to roost, but when the other animals which form their principal support are quitting their holes to feed, in expected security, during the silence and darkness of the approaching night. Some of the species, however, are capable of bearing the light of day; and these pursue their prey in the same manner as the *Falconidæ*. A nearer approach to that family is also here observable, in the smaller size of the facial disk, the dimensions of the eye, and the comparative length, as well as stronger structure, of the wings and tail. In the nocturnal species, which steal upon their prey by the noiselessness of their flight, the plumage is remarkably soft and downy; the margins of the wing-feathers (the great organs of motion) being loose, and divided into fine filaments, thus offering the least possible opposition in passing through the air, and their progress is by a slow and gentle motion of the pinions. The ear also is of a singular construction, and developed to an extent seen in no other birds, giving them an acuteness and delicacy of hearing, that can detect even the slightest rustling of their prey. Their eyes also, in the greater part directed *forwards*, are, from their size, position, and construction, beautifully calculated for collecting and concentrating the horizontal and dim rays of twilight. The small degree of attention that has hitherto been given to the peculiar features that distinguish the *Owls*, especially to the

organ of hearing (and upon a strict analysis and comparison of which only a circular arrangement of the subdivisions can be formed agreeable to nature), compels me to adhere at present to an arrangement of the British species under the generic heads admitted by most of the eminent modern ornithologists.

The general characters of the family may be stated as follows. Bill hooked, compressed; the base covered with a cere. Nostrils, oval or rounded; placed in the anterior part of the cere, and covered, as well as the greater part of the bill, with reflected bristly feathers. Head large; face more or less flat, surrounded by a ruff or border of small close-set feathers. Eyes large, encompassed by a radiated circle of slender hairy feathers. Toes three before and one behind, the outer one reversible. Claws moderately incurved; long, and very sharp. Plumage soft and downy.

GENUS BUBO, CUV. EAGLE OWL.

GENERIC CHARACTERS.

Bill, short, strong, bending from the base, compressed towards the tip. The cutting margin of the upper mandible slightly sinuated. Nostrils, large, oval or rounded, placed in the anterior part of the cere. Facial disk small and incomplete above the eyes; head furnished with *egrets* or tufts. Auditory opening, small, oval, without an *operculum*. Wings rather short, concave; the third and fourth quill-feathers generally the largest. Legs and toes clothed with feathers. Outer toe reversible; claws long, moderately curved, and very sharp.

This genus was established by CUVIER, and contains, besides the *Great-horned* or *Eagle Owl* of Europe; several other species, amongst which may be mentioned the Virginian Horned Owl (*Bubo Virginiana*) and the Arctic Horned Owl (*Bubo Arctica*) of Dr RICHARDSON and SWAINSON,

both natives of North America. They differ from the other *Eared Owls* in having the facial disk less distinctly marked, and incomplete above the orbits of the eyes, and in the comparative smallness of the external auditory conch, which is farther destitute of an *operculum* or flap. Their habits may be stated as nocturnal, though not so strictly so as some of the other genera, as they are not unfrequently seen abroad, and in activity, before the sun sinks below the horizon; and most in the Arctic Regions (which some species constantly inhabit), regularly fly in day-light during the summer months. They are also observed to be less annoyed, and to appear less stupified, when disturbed during the day, than the true nocturnal feeders; and to be so much upon the alert, as seldom to admit of a close approach. They are birds of great strength and activity, and prey upon mammalia, birds, and sometimes fish, which they strike with their talons.

GREAT-HORNED OR EAGLE OWL.

BUBO MAXIMUS, Sibbald.

PLATE XIX.

- Bubo maximus*, *Sibb.* Scot. 15.—*Flem.* Br. Anim. 1. 57. No. 30.
Strix Bubo, *Linn.* 1. p. 131.—*Gmel.* Syst. p. 286. sp. 1.—*Lath.* Ind. Ornith. v. 1. p. 51.—*Raii* Syn. p. 24. 1.—*Will.* p. 63. t. 12.—*Briss.* 1. p. 477.
Le Grand Duc, *Buff.* Ois. v. 1. p. 322.—*Id.* Pl. Enl. 435.—*Veil.* Ois. d'Afrique. v. 1. p. 106. pl. 40.
Hibou Grand Duc, *Temm.* Man. d'Ornith. v. 1. p. 100.
Grosse Ohreule huhu, *Bechst.* Naturg. Deut. v. 2. p. 882.—*Meyer*, Tassch. Deut. v. p. 70.—*Id.* Vog. Liv. und Esth. p. 33. sp. 4.
Strix Bubo Atheniensis, *Gmel.* Syst. 1. p. 286. var. B.
Black Wing Horn-Owl, *Alb.* 3. t. 6.
Athenian Horn-Owl, *Edw.* t. 64.—*Lath.* 1. p. 118.
Great-eared Owl, *Br.* Zool. 1. No. 64. t. 29.—*Arct.* Zool. 2. No. 114.—*Albin.* 3. t. 6.—*Will.* (Ang.) p. 99. t. 12.—*Lath.* Syn. 1. p. 116. 1.—*Id.* Supp. p. 40.—*Levin's* Br. Birds, 1. t. 23.—*Mont.* Ornith. Dict.—*Id.* Supp.—*Bewick's* Br. Birds, Supp.—*Walc.* Syn.—*Shaw's* Zool. v. 7. p. 211.
Eagle Owl, *Flem.* Br. Anim. 1. 57. 30.—*Rennie's* Orn. Dict. 159.

THIS species, which is equal in size to some of the largest Eagles, is of very rare occurrence in Great Britain; and, in

the few instances on record, the birds can only be regarded as wanderers, or compelled by tempest to cross the Northern Ocean *. Occasional visitant.

It preys upon fauns, rabbits, the different species of grouse, rats, &c.—It builds amid rocks, or on lofty trees, and lays two or three eggs, larger than those of a hen, round at each end, and of a bluish-white colour. Food. Nest, &c.

According to TEMMINCK, it is common in Russia, Hungary, Germany, and Switzerland. It is also stated to be a native of Africa; but has not been met with in the New World. Its place is there supplied by the Virginian and Arctic Horned Owls.

The Athenian Horned Owl of EDWARDS appears to be a small variety of this species; and Dr LATHAM enumerates amongst its varieties, the Smooth-legged, and Magellanic Eared Owl or Jurucatu. This latter, indeed, is now with greater probability supposed to have been a bird of the present species, denuded of feathers upon the tarsi by moult, or some accidental cause. As the rarity of the bird in this country permits so few opportunities of learning any particulars of its habits, I avail myself of Sir WM. JARDINE's interesting observations upon an individual that he kept for several years, and which by his kindness has now come into my possession. See Note on the *Great-horned Owl* in Sir WM. JARDINE's edition of WILSON's American Ornithology, 2. 257.

PLATE 19. The figure on this Plate represents a male bird of this species, in the proportion of about three-fifth parts of the natural size.

Base of the bill pale yellowish-brown, the tip darker. Irides bright orpiment-orange. Upper parts of the body varied and spotted with black, ochre-yellow, and General description.

* I have been lately informed, from very good authority, that one of the above species was killed on the upland moors in the county of Durham some years ago. This specimen was afterwards in Mr BULLOCK's museum.

yellowish-grey. Under parts ochre-yellow, with oblong black spots and streaks. Chin white. Thighs deep ochre-yellow, with a few transverse blackish-brown lines and bars. Legs and toes thickly clothed with downy feathers of the same colour as the thighs. Claws very long and sharp, colour pale yellowish grey. Horns composed of six or eight elongated feathers, varied, and coloured like the rest of the plumage.

The female is similar to the male bird, except in wanting the white upon the chin or throat, and is superior in size.

GENUS OTUS, *Cuv.* EARED OWL.

GENERIC CHARACTERS.

Bill bending from the base, and forming an elliptic curve ; the cere covering the basal ridge for nearly half the length of the bill. Cutting margin of the upper mandible straight, the under one having the tip obliquely truncated and notched. Nostrils, oval, obliquely placed. Facial disk of moderate size, and complete. Conch of the ear extending from the outer angle of the eye to behind the limb of the lower jaw, the opening defended by a flap or *operculum*. Head furnished with egrets. Wings long ; the second quill-feather the longest. Tail even, and scarcely shewing any concavity beneath. Legs and toes feathered to the insertion of the claws. Toes rather short ; the outer one reversible. Claws moderately curved, long, and very sharp ; rounded beneath, except the middle one, which is grooved, and with a sharp inner edge.

This natural group (of which *Otus vulgaris* may be considered the type) has also been separated from the other Strigidæ by the great French naturalist, whose recent death the scientific world has such reason to deplore. The members of this genus are distinguished by the completeness of

their facial disk, by the great size of the external auditory opening defended by an operculum, and by egrets more or less distinct upon the forehead; their wings also are long and ample, and the second quill-feather exceeds all the rest in length. Their habits are more nocturnal than those of the preceding genus, although one species, *Otus Brachyotos*, which appears to tend to the Hawk Owls, is sometimes seen flying by day, in lowering and gloomy weather. They prey upon the smaller mammalia (particularly those of the order *Glîres*, FLEM.), and also upon birds, which they capture at roost. Their flight is light and buoyant, and sometimes tolerably rapid. Some of the species inhabit woods and forests, others (in which a slight departure from the type is observable) affect more open districts and extensive heaths.

LONG-EARED OWL.

OTUS VULGARIS, Flem.

PLATE XX.

- Otus vulgaris*, Flem. Br. Anim. 1. 56. No. 27.
Otus Europeanus, Shaw's Zool. 13. 56.
Strix Otus, Linn. Syst. 1. p. 132. 4.—Gmel. Syst. 1. p. 288. sp. 4.—Lath. Ind. Ornith. v. 1. p. 53. 7.—Raii. Syn. p. 35. a. 2.—Will. p. 64. t. 12.—Le Moyon Duc, ou Hibou, Buff. Ois. v. 1. p. 342.—Id. Pl. Enl. 29.
Hibou Moyen Duc, Temm. Man. d'Ornith. v. 1. p. 102.
Mittler Ohreule, Bechst. Naturg. Deut. v. 2. p. 896.—Meyer, Tasschenb. Deut. v. 1. p. 93.—Frisch. Vög. 29.
Hoorn Uil, Sepp. Nederl. Vög. p. 303.
Long-eared Owl, Penn. Br. Zool. 1. No. 65. t. 30.—Arct. Zool. 2. No. 115.—Lath. Syn. v. 1. p. 121.—Id. Supp. p. 42.—Lewin's Br. Birds, 1. t. 24.—Mont. Ornith. Dict.—Id. Supp.—Walc. Syn. t. 23.—Will. (Ang.) p. 99. t. 12.—Bewick's Br. Birds, v. 1. P. I. 46.
Italian-eared Owl, Lath. Syn. 1. p. 122.

THE excellent mixture of colours in this bird, and the imposing appearance of its long tufts or ears, render it one of the most interesting of its genus. Though not so numerous as the Barn (*Strix flammea*), or the Tawny Owl (*Ulula stri-dula*), it is found in most of the wooded districts of England and Scotland. Plantations of fir, particularly of the *spruce*

kind, are its favourite haunts, as in these it finds a secure and sheltered retreat during the day. It also frequently inhabits thick holly or ivy bushes, whose evergreen foliage ensures a similar retirement. It is an indigenous species, and breeds early in spring ; not making any nest of its own, but taking possession of that of a Magpie or Crow.—The eggs are generally four or five in number, white, and rather larger and rounder than those of the Ring-Dove. When first excluded, the young birds are covered with a fine and closely set white down ; they remain in the nest for more than a month before they are able to fly. If disturbed and handled, they hiss violently, strike with their talons, and, at the same time, make a snapping noise with their bills. When they quit the nest, they take up their abode in some adjoining tree, and, for many subsequent days, indeed for weeks, may be heard after sunset uttering a plaintive but loud call for food ; during which time the parent birds are seen diligently employed in hawking for prey.

Food.

Mice and moles form the principal part of their provender ; though MONTAGU * says, that they seldom take small birds on the roost.

In the stomach of one individual, I found five skulls of mice, which were, without doubt, the relics from its repast of the previous night. This bird is of a resolute character, and, when wounded, or taken by surprise, throws itself upon its back, and makes a vigorous defence with its claws, hissing with violence, and snapping with its bill. In this situation, the ears are fully elevated, and projected forwards.

It is pretty generally diffused throughout Europe ; and in North America is found to inhabit the woods at a distance from the sea. It has been observed as far northward as latitude 60° ; and, as Dr RICHARDSON observes, “ probably exists as high as the forests extend.”

* MONT. Ornith. Dict. vol. ii.

PLATE 20. A male bird, and nearly of the natural size.

Bill blackish-grey ; bending from the base, and forming an elliptic arch ; with the culmen rather broad and round. Irides Dutch orange, inclining to ^{General description.}orpiment-orange. The bristly feathers covering the nostrils and base of the bill are white, with black shafts. Above the eye, and at the inner angle, black. Cheeks tawny. The circle of small feathers surrounding the face mottled with white, black, and orange-brown. Above each eye is a tuft of six or eight elongated feathers, of a liver brown, margined with yellowish-brown and white, which the bird can erect or depress at pleasure. Upper parts of the body pale orange-brown, streaked with blackish-brown, and beautifully powdered with black, white and grey specks. Quills barred with brownish-black, the bases of the primary ones orange-brown. Exterior web of the outer quill serrated, and the points of the barbs reverted. Second quill-feather the longest ; the first being equal to the fourth, which is about half an inch shorter than the third. First quill having its inner web notched at about an inch from the tip. Tail pale orange, with a greyish tinge, barred and spotted with black ; square and straight. Under parts ochreous-yellow, passing into white, with oblong and arrow-shaped streaks and spots. Legs and toes clothed with pale buff-coloured feathers as far as the two last scales upon the toes. Claws long, very sharp, and moderately curved ; the middle one grooved beneath, and having a sharp edge ; the inner one imperfectly grooved ; the outer and hind claw rounded.

SHORT-EARED OWL.

OTUS BRACHYOTOS, Cuv.

PLATE XXI.

- Otus Brachyotos*, *Flem. Br. Anim.* 1. 56. No. 28.—*Shaw's Zool.* 13. 57.
Strix Brachyotos, *Lath. Ind. Ornith.* 1. p. 55. 11.—*Gmel. Syst.* 1. p. 289.
 sp. 17.—*Meyer*, *Tasschenb. Deut.* 1. p. 73.
Strix Ulula, *Lath. Ind. Ornith.* 1. p. 60. sp. 27. var. B.—*Gmel. Syst.* 1.
 p. 294.
Strix Brachyura, *Nils. Faun. Suec.* v. 1. p. 62. sp. 27.
Hibou Brachyote, *Temm. Man. d'Ornith.* v. 1. p. 99.
Chouette ou Grand Chevêche, *Buff. Ois.* v. 1. p. 372. t. 27.—*Id.* Pl. Enl. 438.
Chouette Caspienne, *Sonn. Nouv. ed. Buff. Ois.* v. 4. p. 169.
Kurzörige Ohreule, *Rechst. Naturg. Deut.* v. 2. p. 909.—*Frisch. Nög.* t. 98.
Caspian Owl, *Lath. Syn.* v. 1. p. 140. and 147.
Short-eared Owl, *Penn. Zool.* v. 1. p. 204. and 206.—*Arct. Zool.* 2. No. 116.
 —*Levin's Br. Birds*, 1. t. 25.—*Lath. Syn.* 1. p. 124. 9.—*Id.* Supp. p. 43.
 —*Mont. Ornith. Dict.* v. 2.—*Walc. Syn.* 1. t. 25.—*Pull. Cat. Dorset.* p. 4.
 —*Bewick's Br. Birds*, 1. p. 48. and 50.—*Low's Faun. Orcad.* p. 42.—
Wils. Amer Orn. ed. Sir Wm. Jardine, 2. pl. 33. f. 3.—*Northern Zool.*
 2. 75. No. 19.

PROVINCIAL.—Hawk Owl, Woodcock Owl.*

Winter
resident in
England.

The birds of this species are only to be met with in the southern parts of England, between the months of October and April, as they migrate on the approach of spring to Scotland and its islands, where they breed. Mr Low, in his *Fauna Orcadensis*, mentions this Owl as being very frequent in the hills of Hoy, where it builds its nest amongst the heath. It is there of great boldness, and has been seen to chase pigeons in the open day †. In a nest, which contained two full-fledged young ones, he found the remains of a moorfowl, and two plovers, besides the feet of several others.

In this country they generally remain concealed in long grass, or in rushy places, upon waste grounds or moors. In

* The name of *Woodcock Owl* has been given to this species in England, from its appearance and departure coinciding with those of the bird from which the title is derived.

† I have seen it hawking by day, in gloomy weather, upon the North-umbrian moors.

autumn, I have often met with them in turnip fields, but have never seen them in plantations; nor do they ever attempt to perch upon a tree. Five or six of these birds are frequently found roosting together; from which circumstance it is probable that they migrate in families. MONTAGU thinks that this may arise from the abundance of food they meet with in the places where they are thus collected, but the truth of this supposition I am inclined to doubt, from the fact of their being seldom met with during two days together in the same place.

They rarely appear in England previous to the beginning of October, though I have killed two or three individuals when grouse-shooting on the upland moors in August, at which season they were in the moult*.

* Sir WILLIAM JARDINE (in a note on this species in his edition of WILSON'S American Ornithology) thinks that it may rank as a *summer visitant* in the north of England and Scotland; and would even extend the southern limit of its incubation to the extensive moorland ranges of Cumberland, Westmoreland, and Northumberland. He appears to entertain no doubt but that the birds killed in such situations, during the grouse seasons, bred there; and goes on to state what (from its interesting nature) I make no apology for transcribing. "On the extensive moors at the head of Dryfe (a small rivulet in Dumfriesshire), I have, for many years past, met with one or two pairs of these birds, and the accidental discovery of their young first turned my attention to the range of their breeding; for, previous to this, I also held the opinion that they had commenced their migration southward. The young was discovered by one of my dogs pointing it; and on the following year, by searching at the proper season, two nests were found with five eggs. They were formed upon the ground among the heath, the bottom of the nest scraped until the fresh earth appeared, on which the eggs were placed, without any lining or other accessory covering. When approaching the nest or young, the old birds fly and hover round, uttering a shrill cry, and snapping with their bills. They will then alight at a short distance, survey the aggressor, and again resume their flight and cries. The young are barely able to fly by the 12th of August, and appear to leave the nest some time before they are able to rise from the ground. I have taken them, on that great day to sportsmen, squatted on the heath like young black game, at no great distance from each other, and always attended by the parent birds. Last year (1831) I found them

The head of this Owl being smaller than the generality of its fellow species, has procured it, in some parts, the name of *Hawk Owl*, or *Mouse Hawk*. Many ornithologists have been in doubt respecting it, and the synonyms are consequently in some confusion and obscurity. They appear to have been deceived by the dissimilar aspect of the head between the living and dead bird, as it is only in the first state that the horns or ears are visible.

Food. Their principal food with us consists of field-mice ; but from Mr Low's account (as before quoted), it should seem that they do not always confine themselves to such diet. MONTAGU also mentions one, in whose craw he found part of a lark, and a yellow hammer *. When first disturbed, they fly to a short distance, look intently at the object of their alarm, at the same time visibly erecting their horns. If a dog be in company, they hover above it, uttering at the same time a querulous and impatient cry. When wounded, they defend themselves with the same resolution, and in the same manner as the preceding species.

This Owl is of wide locality, being met with in Siberia, and in many parts of North America ; and specimens are also mentioned as having been brought from the Sandwich Islands.

PLATE 21. The bird here represented measured fifteen inches in length, and three feet across the extended wings.

General
descrip-
tion.

Bill bluish black ; elliptically curved ; and with a broad rounded culmen. Irides bright gamboge-yellow. Feathers covering the nostrils, white, with black shafts. Circle immediately above the eyes brownish-black. Cheeks yellowish-brown, the shafts and ends of the

in their old haunts, to which they appear to return very regularly ; and the female, with a young bird, was procured ; the young could only fly for sixty or seventy yards."

* MONT. Ornith. Dict. Supplement, article *Short-eared Owl*.

feathers black. Circle of small feathers behind the auditory conch, mottled with yellowish-orange, black, and white, except opposite to the orifice of the ear, where it is wholly black. Forehead furnished on each side with four or five feathers a little longer than the rest, which it can erect or depress at pleasure. Head, back, and wing-coverts liver-brown, deeply edged with pale buff-orange. Greater quills bright ochreous yellow, the two first with *two* dusky bars on the outer web, the next two with *three*, and the rest with *four*; all of them having one irregular bar on the inner web; and the tips fading into ash-grey. Second quill-feather the longest; the first shorter than the third. First quill notched, near the tip, on the inner-web; with the outer web serrated, and the barbs recurved. Wings, when closed, reaching about an inch beyond the tail. Breast and fore part of the neck buff-orange, streaked with brownish-black or liver-brown down the centres of the feathers, with the edges ochreous-yellow. Belly and abdomen yellowish-white (in some pale yellowish-brown), with dark brown shafts to the feathers. Tarsi and toes pale ochreous-yellow, without spots or streaks; the feathers on the toes assuming a hairy appearance. Claws blackish-grey, long, moderately incurved, and very sharp. The middle claw grooved beneath, with a sharp inner edge; the rest having the under surface rounded.

This description varies but little from that of PENNANT, who first gave an accurate description of this bird, and added it to the British Fauna. My measurement is, however, greater than that which he assigns to it; but it proved to be the general standard of a great many specimens that came under my hand.

GENUS SCOPS, SAVIGNY. SCOPS OWL.

GENERIC CHARACTERS.

Bill curved from the base ; the upper ridge of the culmen flattened ; the cere short ; nostrils placed in front of the cere, round. Facial disk small, and incomplete above the eye orbit. Auditory conch small, and without an operculum. Forehead with egrets or tufts. Wings long ; the third feather the longest in the wing. Tail even, or slightly rounded, concave beneath. Legs rather long ; the tarsi feathered to the toes, which have their upper joints reticulated, and the anterior ones scutellated. Claws sharp, moderately curved, and partially grooved beneath. General plumage soft and downy.

This genus, instituted by SAVIGNY, appears to bear the same analogy to the large Eared-Owls, that the small Night-Owls (genus *Noctua*) do to the larger smooth-headed groups. Their habits, from the accounts of SPALLANZANI and others, are nocturnal, and they seldom issue from their day-retreats before the sun has fairly set below the horizon. Their prey consists of insects, mice, and other small animals of that kind.

SCOPSE-EARED OWL.

Scops ALDROVANDI, Will. and Ray.

PLATE XXII.

- Scops Aldrov. Will. Orn. 65.—*Flem.* Br. Anim. 1. 57. No. 31.
 Strix Scops, Linn. Syst. 1. p. 129. 5.—*Gmel.* Syst. 1. p. 290. sp. 5.—*Lath.*
 Ind. Ornith. v. 1. 56. 18.—*Raii* Syn. p. 25. 3.—*Briss.* 1. p. 495.—*Will.*
 (Ang.) p. 65. t. 12.
 Strix Zorca et Giu, *Lath.* Ind. Ornith. v. 1. p. 56. 15. et 16.
 Le Petit Duc. *Buff.* Ois. v. 1. p. 353. t. 24.—*Id.* Pl. Enl. 436.
 Hibou Scops, *Temm.* Man. d'Ornith. v. 1. p. 107.
 Kleine Ohreule, *Bechst.* Naturg. Deut. v. 2. p. 912.—*Meyer*, Tasschegeb.
 Deut. v. 1. p. 74.
 Scops-eared Owl, *Lath.* Syn. 1. p. 129. t. 15.—*Id.* Supp. p. 43.—*Mont.* Supp.
 to Ornith. Dict.—*Bewick's* Supp. to Br. Birds.

IN consequence of a few well authenticated instances of this handsome little Owl having been lately taken in England, I have ventured to insert it as an occasional visitant, and to give a representation of one obtained, as I am assured, in the neighbourhood of London*.—It is very common in the warmer parts of Europe during the summer months, but regularly leaves them on the approach of autumn, for regions nearer to the equator. In France, it arrives, and departs with the swallow. Its favourite residence in Italy, according to SPALLANZANI, is in the lower wooded regions,—Field and shrew mice, insects, and earth-worms, are its food, in quest of which it sallies forth at night-fall, uttering at the same time its cry, which resembles the word *chivi*, and whence, in some districts, it has acquired the name of Chivini. It constructs no nest, but deposits five or six eggs in the hollow of a tree.

Occasional
visitant.

Food.

An interesting account of the habits and manners of this bird is given by the above-mentioned author, who reared and domesticated several nestlings. From the few species of Strigidae to be met with in our collections rendering fruitless any attempt at analysis, and the very slight attention that has hitherto been paid to the *peculiar characters* and economy of these interesting birds, I am prevented in the wish to trace the direct affinities of this species, or the relation that the group it belongs to is likely to bear to others, in the circular arrangement of the family. It is to be hoped that the labours of some of the ornithologists of the present day will speedily be directed to this point.

PLATE 22. Figure of the natural size.

Bill black. Irides king's-yellow. Head, face, and neck, smoke-grey, beautifully speckled with black and brown. Breast and belly ash-grey, barred and speckled with

General
descrip-
tion

* I have seen a specimen which was killed near York, and is now in the possession of that ingenious artist Mr BEWICK. The *Foljambe Collection* also possesses English specimens of this species.

black and reddish-brown. Back chesnut, sometimes yellowish-brown, with a greyish cast, crossed by fine black zigzag lines. Quills having the outer webs alternately barred with white and mottled brown. The second and third quill-feathers the longest; the inner web of the first and second notched near the tip; the outer webs of the same slightly sinuated, and that of the first having the points of the barbs *serrated*, but not reversed. Tail barred and spotted with black, brown, and white. Tarsi feathered, of an ash-grey colour, speckled with brown; with the under part of the joint, and a small space below, naked. Toes naked, bluish-grey, with the first joints reticulated, and the anterior ones scutellated. The outer toe capable of being turned backwards. Claws pale yellowish-brown. The feathers which compose the horns amount to six or eight on each side; and do not consist of a single feather, as LINNÆUS and the early writers have asserted.

GENUS SURNIA, DUMERIL. HAWK-OWL.

GENERIC CHARACTERS.

BILL short, bending from the base, the cutting margin slightly sinuated. Cere short. Nostrils large, oval, obliquely placed at the anterior margin of the cere. Facial disk very incomplete and small, eyebrows projecting. Ears small, oval. Wings of mean length; not reaching, when closed, to the end of the tail. The third quill-feather the longest. Tail elongated, rounded, or wedge-shaped. Legs and toes thickly feathered. Claws long, very sharp, and much incurved. Inner and middle claws grooved beneath, the latter having a sharp inner edge; those of the outer and hind toes rounded. General plumage firmer in texture than the more nocturnal group.

The genus *Surina*, established by DUMERIL to embrace those species of the Strigidæ which shew a considerable approximation to the *Falconidæ* (not only in the habit of hawking by day, but also in form, having smaller heads, less complete facial disks, and longer tails, than the other Owls), appears properly to include the *Snowy Owl* of authors, as that bird possesses all the essential characters of the other *Hawk Owls*, and its habits (from the statement of those who have studied and observed them) are declared to be those of a day-flying, rather than a nocturnal bird of prey. The members of this genus are natives of high northern latitudes, and are widely distributed. They feed upon birds, animals, and fish. Their plumage, although soft, has not the *downy* texture or appearance so distinctive of the more typical or night-flying kinds.

SNOWY OWL.

SURNIA NYCTEA, *Dumeril*.

PLATE XXIII.

- Surnia Nyctea*, *Dumeril*.—*Sir Wm. Jardine's* ed. of *Wils.* Amer. Orn. 2. 46.
Strix Nyctea, *Gmel.* Syst. 1. p. 201.—*Lath.* Ind. Ornith. 1. 57. sp. 20.—
Meyer, *Tasschenb.* Deut. v. 1. p. 75.—*Wils.* Amer. Ornith. v. 4. p. 53.
 pl. 32. f. 1.
Nyctea cinerea, *Shaw's Zool.* 13. 68.
Strix alba *Freti-Hudsonis*, *Briss.* 1. 522.
La Chouette Harfang, *Buff.* Ois. v. 1. p. 387.—*Id.* Pl. Enl. 458.—*Temm.*
Man. d'Ornith. v. 1. p. 82.—*Veil.* Ois. d'Amer. Sept. v. 1. pl. 18.
Chouette blanche, *Vaill.* Ois. d'Afr. v. 1. pl. 45. old bird.
Schnee-Kauz, *Bechst.* Naturg. Deut. v. 2. p. 925.
Schneuwil, *Meyer Vög.* Liv. und Esthl. p. p. 29.
Snowy Owl, *Arct. Zool.* 2. Nö. 121.—*Lath.* Syn. 1. p. 132. 17.—*Id.* Supp.
 p. 45.—*Mont.* Supp. to Ornith. Dict.—*Bewick's* Supp. Br. Birds.—*Wernerian Trans.* v. 4.

It is only within these few years past that this noble and beautiful Owl has been established as indigenous in Great Britain. In a tour made to the Orkney and Shetland Isles, in the year 1812, Mr BULLOCK, the late proprietor of the London Museum, met with it in both groups of islands; and

it is now ascertained that the species is resident, and breeds there. I have seen specimens that were killed in Shetland, since the above-mentioned period, and some of which are now in the magnificent Collection at the Edinburgh Museum. From the observations that have been made on its habits, it appears to be by no means confined to twilight for its supplies of food, rather perhaps the reverse, as it has been seen pursuing its prey in the day-time.

Food. Alpine hares, rabbits, rats, and the different species of grouse, fall under that description *. It rests exposed upon the ground, where it can look around it, and descry the approach of an enemy.

Those seen by Mr BULLOCK were upon the open sand-banks, on the sea-shore, which, from abounding with rabbits, were doubtless their favourite haunts.

Nest, &c. They breed on the ledges of precipitous rocks, the eggs, being two in number, of a pure white, according to most authors; but by VEILLOT, they are said to be spotted with black †.

It is common in the regions of the arctic circle, even inhabiting during summer the frozen coast of Greenland. Is very numerous on the shores of Hudson's Bay, and the most remote arctic islands that have been visited, belonging to the American Continent; also in Norway, Sweden, and Lapland; but is of very rare occurrence in the temperate parts of Europe and America.

* WILSON informs us that it is a dexterous fisher; pouncing its finny prey by an instantaneous stroke of the foot, either in skimming near the surface, or from its position on a stone in shallow-water. Dr RICHARDSON has seen it pursue the American hare on the wing, and make repeated strokes with its foot at the animal.—See "Northern Zoology," vol. ii. p. 89.

† Dr RICHARDSON says, that this bird "makes its nest on the ground, and lays three or four *white* eggs, of which usually only two are hatched. In winter, when fat, it is esteemed delicate eating by the Indians. Its flesh is *very white*."

The figure on **PLATE 23.** is nearly in the proportion of three-fourths of the natural size, taken from a specimen killed in the Shetland Islands, and which, from its numerous brown bars and spots, appears to have been either a young bird, or of middle age, as the old of this species exhibit a pure white plumage. General description.

Bill black, nearly hidden by the projecting bristly feathers at its base. The head, compared with other Owls, is small, in proportion to the size of the body. Irides gamboge-yellow. Spots and bars on the plumage brownish-black. Legs and toes very rough, and clothed with long hairy feathers, that almost conceal the claws, which are long, black, and very sharp. The outward orifice of the ear much smaller, and rounder in shape than is found in the other species.

Since writing the above description, two very fine specimens (a male and female) of this rare British bird were killed near Rothbury, in Northumberland, in the latter part of January 1823, during the severe snow-storm that was so generally felt throughout the north of England and Scotland. They are the only individuals of this species hitherto taken, or, I believe, seen in England, and are now in my collection.

From the number of bars and black spots upon the head, back, scapulars, wings, and belly of the female, it appears to be a young bird. Its dimensions, when recently killed, were as follows. Length from the tip of the bill to the end of the tail two feet one inch. Breadth with extended wings five feet. The male is of inferior size, and is much whiter than the female. Bill black; nearly hidden by the bristly recurved feathers at the base. Facial disk small, only occupying the base of the bill and part of the lower eye-orbit. Eye-brows projecting. Wings, when closed, shorter than the tail by nearly two inches. The third quill-feather the longest. Legs and toes very thickly clothed with hairy fea-

thers. Claws black, very long, and much incurved; the middle one with a sharp inner edge, and grooved; the inner claw also grooved; and the outer and hind ones cylindrical.

Both these birds were killed upon the open moor, in a wild and rocky part of the county, and, according to description, were generally seen, during the few days that intervened between their first appearance and death, perched upon the snow, or on some large stone projecting from it.

The female, which was sent to me immediately after being shot, was dissected and preserved at home. She was in excellent condition, and was covered entirely under the skin with a layer of fat, nearly a quarter of an inch in thickness.

Her stomach was quite empty, and did not appear to have contained food for a short time previous. The male was killed about ten days afterwards, within a few miles of the same place, and had lived probably during the interval upon the black and red grouse, which are abundant in that district.

GENUS STRIX, *AUCT.* OWL.

GENERIC CHARACTERS.

Bill strait at the base, with the tip arched, and hooked. Cutting margin of the upper mandible nearly straight; under mandible sloping to the point, and doubly-notched. Nostrils oval, obliquely placed on the anterior ridge of the cere. Facial disk large, complete. Auditory conch very large, and furnished with an operculum. Wings long, and ample; the second quill-feather the longest in the wing; the first being very little shorter, equal to the third, and slightly notched on its inner web near the tip. Tail short, and even. Legs having the tarsi long and slender, clothed with downy setaceous feathers; toes thinly covered with hairs; claws long, sharp, moderately curved, and all more or less grooved beneath.

By SAVIGNY and other naturalists, the birds of this genus have been considered the typical representatives of the family; but as our knowledge of the various groups is still so limited, and so little attention has hitherto been given to the peculiar features which must regulate our study, and lead us to their true affinities, it remains a matter of doubt, whether the type will be found to exist in the present genus, or in some of the others, as *Ulula* or *Otus*, in both of which a nearly equal development of the auditory conch, facial disk, and other characteristic points, are to be found. They are birds of strictly nocturnal habits, and are never seen abroad till night-fall. This trait is pointed out to us by the soft and downy plumage with which they are clothed, and is particularly observable in the fabric of their quill-feathers; endowing them with a buoyant and noiseless flight, and enabling them to steal upon their nimble prey, without creating a fatal alarm. Mice and other small mammalia seem to constitute their entire support.

BARN OR WHITE OWL.

STRIX FLAMMEA, Linn.

. PLATE XXIV.

- Strix Flammea*, *Linn. Syst.* 1. p. 133. 8.—*Faun. Suec. No.* 73.—*Gmel. Syst.* 1. p. 293.—*Lath. Ind. Ornith.* 1. 60. 28.—*Wils. Amer. Ornith.* v. 6. p. 57. pl. 50. fig. 2.
Aluco Flammeus, *Flem. Br. Anim.* 1. 57. No. 29.
Aluco, *Brisson* 1. p. 503. 2.—*Raii Syn.* p. 25. A. 1.
Aluco minor *Aldrov. Will.* p. 67. t. 13.
Chouette Effraie, *Temm. Man. d'Ornith.* v. 1. p. 91.
L'Effraie ou le Fresaie, *Buff. Ois.* v. 1. p. 366. t. 26.
Schleyerkauz, *Bechst. Naturg. Deut.* v. 2. p. 947.—*Meyer, Tasschenb. Deut.* v. 1. p. 79.
Die Kirkuil, *Sepp. Nederl. Vög.* v. 3. p. 399.—*Frisch. Vög.* t. 97.
White Owl, *Br. Zool.* 1. No. 67.—*Arct. Zool.* No. 124.—*Will. (Ang.)* p. 104. t. 13.—*Lewin's Br. Birds*, 1. t. 26.—*Lath. Syn.* 1. p. 138. 26.—*Id. Sup.* p. 46.—*Mont. Ornith. Dict.* v. 2.—*Don, Br. Birds*, t. 113.—*Pull. Cat. Dorset.* p. 4.—*Bewick's Br. Birds*, v. 1. p. 51.
Barn Owl, *Shaw's Zool.* 7. 258.

PROVINCIAL.—Gillihowlit, Howlet, Madge Owl, Church Owl, Hissing Owl, Screech Owl.

THIS is the most common of the British species, and is found in every part of the kingdom. It is an inhabitant of ruins, church-towers, barns and other buildings, where it is not liable to continual interruption; and is of essential service in checking the breed of the several species of mice and shrews, upon which it subsists.

Food.

On the approach of twilight it may frequently be seen issuing from its retreat to the adjoining meadows and hedge-banks in search of food, hunting with great regularity, and precipitating itself upon its prey with rapidity and unerring aim. This it swallows whole, and without any attempt to tear it in pieces with its claws.

Nest, &c.

It breeds in old towers, under the eaves of churches, or in similar quiet places, and sometimes in the hollows of trees, laying from three to five eggs, of a bluish-white colour. The young, when first from the shell, are covered with white down, and are a long time in becoming fully fledged, or in being able to quit the nest. Like the other species of Owls, it ejects the hair, bones, and other indigestible parts of its food, in oval pellets, by the mouth. These castings are often found in great quantities in places where these birds have long resorted.

In its flight it occasionally utters loud screams, and when perched, hisses and snores considerably.

It is an abundant species throughout Europe and Asia, and TEMMINCK says it is the same throughout North America.

It is easily domesticated, and will become very tame when taken young. MONTAGU reared a White Owl, a Sparrow-Hawk, and a Ring-Dove together, who lived in great harmony for six months. They were then set at liberty; and the Owl was the only one of the three that returned.

PLATE 24. A male bird of the natural size.

General
descrip-
tion.

Bill straw-yellow; rather long; and strait as far as the anterior margin of the nostrils. Auditory conch very

large and defended by an *operculum* of great size. Irides bluish-black. Ruff and facial feathers white ; but in some specimens the ruff is of a brownish colour, as is also the lower and inner angle of the eye. Crown of the head, back and wings, ochreous yellow, of lighter or darker shades in different individuals, according to age or sex ; the tips of the feathers with fine zigzag lines, and black and white spots. Inner webs of the greater quills white, with four dusky spots, very broad ; the barbs having their tips detached, and open ; the outer web of the first feather with the tips of the barbs open, distinct, and recurved. First quill-feather rather shorter than the second, which is the longest in the wing ; inner web of the first sinuated near the tip. Wings, when closed, reaching beyond the end of the tail, which is even. Under parts pure white, in some tinged with ochreous yellow, and small brown spots or specks. Tarsi clothed with short downy feathers, with setaceous tips. Toes thinly covered with dirty-white hairy feathers. Claws yellowish-white, the middle one having its inner edge imperfectly serrated ; and all of them being more or less grooved beneath.

GENUS *ULULA*, Cuv. HOWLET.

GENERIC CHARACTERS.

Bill nearly strait at the base ; the tip hooked ; with a rounded culmen, cutting margin of the upper mandible having a small lobe or sinuation near the middle. Facial disk large and complete, auditory conch rather large, and defended by an *operculum*. Wings short, rounded, concave ; the first quill-feather very short ; the fourth the longest in the wing, with the third and fifth nearly equal to it. Tail reaching beyond the closed wings, rounded, bent, and concave beneath. Legs having the tarsi plumed ; and the toes

more or less so. Claws moderately curved, long, sharp, all more or less grooved beneath.

The genus *Ulula* was restricted by CUVIER to *Strix nebulosa*, and *Str. litterata* of authors; allowing *Strix stridula* to remain as the type of SAVIGNY's genus *Syrnium*. But as the characters of the latter are equally applicable to the other, and their habits are similar, I have ventured to include the whole under one generic head. They are nocturnal feeders, and are the inhabitants of woods and forests; preying upon birds, animals, and sometimes *fish*. Their flight is slow, but buoyant; their wings being broad, but short, and much rounded. Their quills are strongly notched, as in the *Buteonine* subfamily of the *Falconidæ*. They are all birds of considerable size and power.

TAWNY OWL.

ULULA STRIDULA, Mihi.

PLATE XXV.

- | | | |
|--------------------------|---|--|
| Synonyms of
Old Male. | { | Syrnium stridulum, <i>Shaw's Zool.</i> 13. 62. |
| | | Strix Aluco, <i>Meyer</i> , Tasschenb. Deut. v. 1. p. 76. |
| | | Chouette Hulotte, <i>Temm.</i> Man. d'Ornith. 1. p. 89. |
| | | Nacht-kaute, <i>Bechst.</i> Naturg. Deut. v. 2. p. 910. |
| | | Tawny Owl, <i>Mont.</i> Ornith. Dict.— <i>Bewick's Br. Birds</i> |
| | | Strix Aluco, <i>Linn.</i> 1. p. 130. 7.— <i>Gmel.</i> Syst. 1. p. 292. sp. 7.— <i>Lath.</i> Ind. |
| | | Ornith. 1. p. 59. 26. |
| | | Ulula, <i>Briss.</i> 1. p. 507. 3.— <i>Will.</i> p. 68. t. 13. |
| | | Aluco, <i>Will.</i> 68.— <i>Id.</i> (Ang.) p. 104. t. 13. |
| | | La Hulotte, <i>Buff.</i> Ois. v. 1. p. 358.— <i>Id.</i> Pl. Enl. 441. |
| Synonyms of
Female. | { | Aluco Owl, <i>Lath.</i> Syn. p. 134. 20. |
| | | Brown Owl, <i>Penn.</i> Br. Zool. No. 69. t. 32.— <i>Lewin's Br. Birds</i> , 1. t. 28. |
| | | Strix stridula, <i>Linn.</i> Syst. 1. p. 133. 9.— <i>Gmel.</i> Syst. 1. p. 133.— <i>Lath.</i> Ind. |
| | | Ornith. 1. p. 58. 25. |
| | | Strix Aldrov. <i>Raii</i> Syn. p. 25. A.— <i>Will.</i> p. 65. t. 14. |
| | | Le Chat-huant, <i>Buff.</i> Ois. 1. p. 362. t. 25.—Pl. Enl. 437. |
| | | Common Brown or Ivy Owl, <i>Will.</i> (Ang.) p. 102. t. 14. |
| | | Tawny Owl, <i>Br. Zool.</i> 1. No. 68.— <i>Lewin's Br. Birds</i> , 1. t. 27.— <i>Lath.</i> Syn. |
| | | 1. p. 139. 27. |

PROVINCIAL—Jenny Howlet, Ivy Owl, Wood Owl.

As no doubt appears to be entertained now by ornithologists respecting the identity of the *Brown* and *Tawny* Owl, and it being satisfactorily ascertained that the difference in the colour of the plumage is merely sexual, I have brought their synonyms together. Next to the White or Barn Owl, it is the most abundant of the British species, and is, like the former, generally dispersed throughout the kingdom; but is most readily to be met with in well wooded districts, as it takes up its abode in woods and thick plantations, preferring those which abound in firs and holly, or ivy bushes. In such situations it remains concealed till night-fall, as it is very impatient of the glare of day, and sees, indeed, imperfectly during that time.

It builds in the cavities of old trees, or will occupy the Nest, &c. deserted nest of a crow, and produces four or five white eggs, of an elliptical shape.

The young, on their exclusion, are covered with a greyish down, and are easily tamed, when fed by the hand; but MONTAGU observes, that if placed out of doors, within hearing of their parents, they retain their native shyness, as the old birds visit them at night and supply them with abundance of food. They prey upon rats, mice, moles, rabbits, Food. and young leverets, and are sometimes destructive to pigeons, entering the dovecots, and committing great havoc.*

At night this species is very clamorous, and is easily to be known from the others by its hooting, in the utterance of which sounds its throat is largely inflated.

PLATE 25. Natural size.

Bill yellowish-white. Irides bluish-black. Facial feathers white, tinged and barred more or less with brown. The circle of small feathers surrounding the face white, spotted with yellowish-brown and black. Upper parts of the

* It is also ascertained that they sometimes prey upon fish. See Observations by the Rev. Mr BREE of Allesly, in "LONDON'S Magazine of Nat. History."

plumage spotted, and marked with umber-brown, black, and ash-grey, upon a ground of wood-brown colour. Scapulars and wing-coverts, with large white spots, forming indistinct rows. Under parts yellowish-white, with transverse bars of reddish-brown; the shafts of the feathers being dark umber-brown. Quills buff-orange, barred with brown. The fourth quill-feather the longest. First four quills having their inner webs emarginated; and, as far as the sixth, with their outer webs sinuated. Wings, when closed, not reaching to the end of the tail by two inches. Tail barred alternately with wood and umber browns, except the middle feathers, which are plain wood-brown. Legs thickly clothed with downy feathers, of an ash-grey colour, speckled with brown. Claws long and sharp, greyish-black. The males have the ground colour of the plumage much redder; and scarcely two individuals can be found precisely similar in the markings.

GENUS NOCTUA, Cuv. NIGHT-OWL.

GENERIC CHARACTERS.

Bill bending from the base, much curved. Cere short; nostrils oval, placed in the anterior part of the cere. Auditory conch large, with a narrow operculum. Facial disk complete. Wings of mean length, ample and rounded; the third and fourth quills nearly equal, and the longest in the wing. Inner webs of the first primaries notched. Tail slightly rounded, and longer than the closed wings. Legs having the tarsi and toes more or less feathered. Claws moderately incurved; the inner and middle one grooved beneath; the outer and hind claws nearly cylindrical. General plumage very soft and downy; the barbs of the feathers open and very fine.

The members of this genus are of diminutive size, and of strictly nocturnal habits, as indicated by the form and structure of the ear. They have a near resemblance to each other in the prevailing colour and disposition of their plumage; and are found disseminated in a great variety of latitudes and climates. They prey upon mice and other small mammalia, as well as insects; and their flight, like the other nocturnal species, is buoyant and noiseless.

TENGMALM'S NIGHT-OWL.

NOCTUA TENGMALMI, Müh.

PLATE XXVI.

Strix Tengmalmi, *Gmel. Syst.* 1. 291.—*Lath. Ind. Ornith.* 1. 64. sp. 42.—*Faun. Amer. Boreal.* 2. 94. No. 26. pl. 32.
Strix funerea, *Linn. Faun. Suec.* 25. sp. 75.
Strix dasypus, *Bechst. and Meyer, Temm. Man. d'Ornith.* 1. 94.
Chouette Tengmalm, *Temm. Man. d'Ornith.* 1. 94.
Rauchfüssiger Kauz, *Meyer, Vög. Deut. Heft.* 6, male and female.
Tengmalm's Owl, *Selby, Cat. in Trans. of Nat. Hist. Soc., Northumberland, Durham, and Newcastle*, v. 1. 248.—*North. Zool.* 2. 94. pl. 32.
New species of Owl, *Penn. Arct. Zool.* 2. Suppl. 60.

I HAVE now great satisfaction in correcting an error committed at the time the figures contained in the first part of the "Illustrations of British Ornithology," and the first edition of the present accompanying volume, were published; where, from the want of specimens to make the necessary comparison, I had figured and described an Owl under the title of *Strix Passerina*, *Linn.*, which, upon further investigation, proves to be a different, although nearly allied, kind, and known by the specific name of *Strix Tengmalmi*. The specimen from which my figure was taken still remains in my collection, and was killed near to Morpeth in Northumberland in 1812; a fact that, independent of the capture of others since that period (which I believe to have occurred), entitles it to be placed upon the list of our fauna as a rare

Rare vi-
sitant.

visitant. In size it nearly equals *Noctua Passerina*, which it also resembles in the disposition of its feathers, but is less spotted with white, and the dark part of the plumage approaches nearer to that shade known by the name of *Liver-brown*. The shorter tarsi and *thickly* feathered toes are also distinguishing characters, as well as the black facial feathers, between the bill and eye-orbits; and those which proceed from the posterior angle of the eye, with the belt of velvety feathers immediately behind the auditory opening. The tail is also longer in proportion to its size, and the bird altogether exhibits a more lengthened form. In Europe it is widely distributed through the northern and eastern parts, being found in Sweden, Norway, Russia, and parts of Germany, inhabiting the thick and extensive pine forests. In North America, according to Dr RICHARDSON, it has a wide range, embracing all the woody country from the great Slave Lake to the United States. Its cry he describes as a single melancholy note, repeated, at an interval of a minute or two, during the greater part of the night; at which time also it is in activity, for, when roused by day, it is so much dazzled and distressed by the glare of the sun, as to be easily caught

Nest, &c. by the hand. It breeds in the holes or clefts of pine trees, and lays two white eggs. Its food consists of mice and insects, particularly those of the coleopterous kind. The plumage, like that of other night-flying species, is very soft and downy.

PLATE 26. represents this bird of the natural size.

Bill much curved and compressed; the culmen and tip yellowish white; the sides dark grey. Facial disk black at the posterior and anterior angles of the eye-orbits; the rest greyish-white, mixed with black. Ear conch large, with a narrow operculum. Velvety feathers behind the auditory opening, brownish-black. Crown, nape, and hind part of the neck, liver-brown, spotted with white; those upon the latter part large,

and surrounded by a margin of liver-brown. Back, wing-coverts, and scapulars, liver-brown, spotted with white; the spots upon the mantle nearly concealed by the overlaying tips of the feathers. Quills liver-brown; their exterior webs having three or four oval white spots, forming imperfect bars. Points of the outer barbs of the whole of the first quill open and reverted; those of the second the same for one-half of its length; of the third a small portion only near the tip. Third and fourth quill-feathers the largest in the wing; the third rather exceeding the fourth. The first and second having their inner webs notched, the second and third with their *outer* webs sinuated. Tail, extending nearly an inch beyond the closed wings, liver-brown, crossed by five interrupted white bars, or rather rows of spots, the last about half an inch from the tip. Under plumage white, varied with paler liver-brown. Legs having the tarsi short, and, as well as the toes, thickly clothed with soft hair-like feathers. Claws of a tolerable length, and moderately incurved.

LITTLE NIGHT-OWL.

NOCTUA PASSERINA, Mili.

PLATE XXVII.

- Strix Passerina*, Linn. Syst. 1. 133. 12.—Gmel. Syst. 1. 296. sp. 12.—Lath. Ind. Ornith. 1. 65. sp. 46.
Noctua minor, Raii, Syn. 26. 6.—Will. 69. t. 13.—Briss. 1. 514. 5.
 Chouette Chevêche, Temm. Man. d'Ornith. 1. 92.
 La Chevêche ou Petit Chouette, Buff. Ois. 1. 78.
Strix nudipes, Nil. Orn. Suec. 1. 68. sp. 30.
 Kleiner-kauz, Bechst. Naturg. Deut. 2. 963.—Meyer, Tasschenb. Deut. 1. p. 80.
 Little Owl, Br. Zool. 1. No. 70.—Arct. Zool. 2. No. 126.—Lewin's Br. Birds, 1. t. 39.—Will. (Ang.) 105. t. 13.—Lath. Syn. 1. 150. 40.—Monl. Ornith. Dict. and Supp.—Bewick's Br. Birds ? sp. t. 65. ?

THIS species, like the preceding, can only be viewed in the

Occasional
visitant. light of an occasional visitant, though the instances of its capture are more numerous, at least if we judge from those which have been recorded under the name of *Strix Passerina*. The great resemblance between the two species may, however, in some instances, have been the means of one being confounded with the other; and I almost suspect BEWICK to have been thus misled, as his description and figure of the *Little Owl* agree better with TENGMALM's Owl than with the true *N. Passerina*. According to TEMMINCK, the present species is rarely found in Europe beyond the 55° of N. Latitude; but in the warmer regions of this quarter of the globe is very common. It inhabits ruins, church towers, and other buildings, as well as the recesses of the forest; and in such situations it also breeds. Its eggs are from two to four in number, and, like those of the rest of the Strigidæ, white, and of a rounded shape. It is a nocturnal species, during the day remaining concealed and at rest; but as soon as the sun sinks below the horizon, it becomes very active, and its appearance and manners then awaken great interest. Its disposition is wild and fierce, and, according to SPALLANZANI, not capable of being tamed, like the Little-eared or Scops-Owl. It is, however, frequently taken young, and appears to be easily reared, as I have repeatedly met with these birds for sale in Flanders and France, confined in large wicker cages, where they looked at ease and in good condition. Its food consists of mice, shrews, &c.; also of small birds, which it takes at roost; and of insects, such as locusts and beetles.

PLATE 27. represents a male bird of the natural size, from a British specimen.

Bill much hooked, the sides rather convex, and of a pale yellowish colour. Facial disk not so complete or full as in *Noc. Tengmalmi*, mostly white; the shafts of some of the bristly feathers covering the bill black; the posterior part with the barbules blackish-brown. Fea-

thers behind the disk white, varied with brown. Chin white, below which is a circle of yellowish-brown feathers, with darker bars ; to which succeeds another broad circle or collar of white. Crown and nape of the neck dark brown, with the central part of the feathers white, and forming guttated spots. Hind part of the neck with large white spots, and forming a broad angular band. Back and wings liver-brown, with a grey tinge, each feather being spotted with white ; which spots are surrounded with pale yellowish or buff. Wings having the outer webs of the quills with irregular bars of yellowish-white ; third and fourth quill-feathers of nearly equal length, and the longest in the wings. The first quill with the points of the outer barbs reverted. The first, second, third, and fourth, with the inner webs deeply notched ; the second, third, fourth, and fifth, with their outer webs sinuated. Tail brown, with four bars of yellowish-white ; the last being close to the tip. Legs having the tarsi longer than in *Noc. Tengmalmi*, and clothed with short downy white feathers. The toes only thinly covered with white hairy feathers, and exposing two scales at the extremity of each toe. In the *under plumage* the breast and belly are white, clouded and spotted with deep liver-brown ; and the abdomen and under tail-coverts white.

ORDER II.

INSESSORES, *VIGORS*.

THE Insectores, or Perching Birds, form the second and pre-eminently typical order of the class, comprehending all that vast assemblage of species distinguished by LINNÆUS and others under the separate orders *Picæ* and *Passeres*. This division of the earlier systematists is entirely artificial, being instituted without any due regard to the true affinities of the species. As such, it has been rejected by CUVIER,* who declares his inability to detect any character of distinction either internal or external, which can warrant so absolute a separation ; and VIGORS, SWAINSON, and other eminent ornithologists of the present day, have shown that an unbroken chain and circular succession of affinities does exist throughout the whole of these birds ; and that the subordinate groups into which the order is divisible (complete as each may appear within itself), are too intimately connected with each other, to admit of a separation so absolute as that adopted by LINNÆUS and his followers. In an order of such extent, and which contains so great a variety of form, a considerable difficulty has been experienced in selecting characters sufficiently comprehensive to define it. On this account, some have merely assigned to it absence of certain qualities, as contrasted with the other orders ; but Mr SWAINSON† has pointed out three distinct characters, two of which he considers as universal, and the third as especially applicable to

* In the "Regne Animal," he observes in a note, "Malgré tous mes efforts, il m'a été impossible de trouver, ni à l'extérieur, ni à l'intérieur, aucun caractère propre à séparer des passereaux aux des genres compris parmi les *Picæ* de LINNÆUS, qui ne sont pas grimpeurs."

† See Northern Zoology, vol. ii. p. 100, &c.

the more typical groups of these. The "first is, feet of that construction most adapted for perching or grasping, the hind toe always present, and articulated upon the same plane with the fore toes; second, the absence of the strongly³ defined tooth which gives to the Rapacious birds the exclusive power of tearing or dividing their food previous to swallowing it; and, thirdly, by the presence in the typical groups of a small notch on one or both mandibles, enabling the bird to hold, but not divide its food, which is swallowed in a whole state." In addition to these distinctions of external form, it may be observed, that the Insectorial birds possess a greater volume of brain as compared with the other orders, and an intelligence proportionally superior; indicating in this respect also the typical superiority they hold in this class of the animal kingdom. The five primary tribes or divisions of the order have long been recognised by CUVIER, ILLIGER, and other eminent naturalists, and are now universally adopted. These are the *Fissirostres*, *Dentirostres*, *Conirostres*, *Scansores*, and *Tenuirostres*.* Of these the Dentirostres and Conirostres are the typical tribes, being distinguished by their more perfect construction, and the possession of qualities of which the others are destitute, or in which they exist only in a limited degree. Each tribe is again divisible into circular groups of subordinate value, distinguished as families, sub-families, and genera, which last may be considered as the lowest on the scale.

TRIBE I. FISSIROSTRES, Cuv.

The Fissirostres are distinguished from the more typical tribes by the weak conformation of their legs and feet, by the width of their *rixtus* or gape (the bill being always broad

* I have here to observe, that throughout this work, the arrangement adopted by Mr VIGORS, of placing the more perfect or typical forms in the centre, and the aberrant on each side, has been pursued.

at the base), and their habit of feeding upon wing. This latter quality, however, as well as the weak structure of the legs, are also met with in the typical families of the Tenuirostres, the tribe which meets the present one at the other extremity of the order; but a remarkable difference in the mode of feeding effectually distinguishes the members of each; this being accomplished in the Fissirostral tribe by the bill alone, whereas in the typical Tenuirostral birds, it is taken by the instrumentality of the tongue. The nature of their respective food is also dissimilar in the Fissirostres (with the exception of the *Trogonidæ*) being confined to animal matter, and principally that of the insect world. In the Tenuirostres it is chiefly derived from vegetable juices and fruits. The families of which the present tribe is composed are, as usual, five; which (though presenting among themselves a great diversity of structure) are all partakers in a greater or less degree of its distinguishing characters. They are named the *Meropidæ*, *Hirundinidæ*, *Caprimulgidæ*, *Trogonidæ*, and *Halcyonidæ*. Of these the *Hirundinidæ* and *Caprimulgidæ* are the typical groups, as in them we find the fullest development of the peculiar characteristics of the tribe.

FAMILY I. MEROPIDÆ.

THE members of this aberrant family, are mostly natives of the warmer climates of the ancient world, and are noted for the beauty of their plumage, consisting in general of shades of green, blue, yellow, and rich browns. In the form of their feet, they are nearly allied to the *Halcyonidæ*, which stand at the farther extremity of the tribe, and in other parts of their structure a connexion is kept up with the *Promeropidæ* of the Tenuirostral tribe, as well as with other members of the Insectorial order. The typical genera possess a full development of wings and tail, and in consequence are

birds of active and powerful flight, and obtain the whole of their food in the air, consisting of insects, particularly those of the Hymenopterous order. In the genus *Nyctyornis* (of SWAINSON), the members of which (like the *Caprimulgidæ*) feed during twilight and night, the wings become shortened and rounded, and the body, as he observes, if the distinguishing characters of the head were hidden, might be supposed to belong to the *Motmots* (*Prionites*), a genus of birds belonging to the family of the *Buceridæ* in the conirostral tribe of the order, thus becoming a link to connect the members of these tribes. Of the various forms belonging to this family, we possess but two examples, viz. a single species of the genus *Merops*, and another of the genus *Coracias*, both of which are recognised in our Fauna as occasional visitants.

GENUS MEROPS, LINN. BEE-EATER.

GENERIC CHARACTERS.

BILL rather long, slightly curved, sharp pointed, sub-quadrangular, and carinated. Nostrils basal, lateral, oval, and open, partly hidden by reflected bristles. Feet having the tarsus short, with three toes before, and one behind, the outer toe being joined to the middle one as far as the *second* joint; the inner one the same, as far as the *first*. Claws small, curved; that of the hind toe the smallest. Wings long, acuminate; having the first quill very short, the second being the longest.

This genus of birds take their food, consisting of bees, wasps, &c. upon the wing, like swallows. They breed in the banks of rivers, in which they dig holes to a considerable depth. They are totally natives of the warmer parts of the ancient continent. Like the King's-fishers, their plumage is brilliant, the prevailing colours being blues and greens of various shades, and tinged by beautiful reflected lights.

COMMON BEE-EATER.

MEROPS APIASTER, Linn.

PLATE XLI.

- Merops Apiaster*, *Linn. Syst.* 1. p. 182. 1.—*Gmel. Syst.* 1. p. 460.—*Lath. Ind. Ornith.* v. 1. p. 269. 1.—*Rati Syn.* p. 49. 3.—*Will.* p. 102. t. 24.—*Briss.* 4. p. 582.
- Merops Chrysocephalus*, *Lath. Ind. Ornith.* v. 1. 273. 11.
- Merops Galilæus*, *Hassel. It.* 247.
- Le Guepier*, *Buff. Ois.* v. 6. p. 480. t. 23.—*Id. Pl. Enl.* 938.—*Le Vaill. Ois. de Parad.* et *Fromer*, v. 3. pl. 1. and 2.
- Le Guepier vulgaire*, *Temm. Man. d'Ornith.* 1. p. 420.
- Bienfresser*, *Bechst. Naturg. Deut.* v. 2. p. 1099.—*Meyer*, *Tasschenb. Deut.* 1. p. 132.—*Id. Vög. Deut.* v. 1. t. Heft. 10. male and female.—*Frisch*, *Vög.* t. 221. the female, t. 222. male.
- Yellow-throated Bee-Eater*, *Lath. Syn.* v. 2. p. 678.
- Common Bee-Eater*, *Will. (Ang.)* p. 147.—*Albin.* 2. t. 44.—*Linn. Trans.* 3. p. 333.—*Lath. Syn.* 2. p. 667.—*Id. Supp.* p. 119.—*Mont. Ornith. Dict.* —*Id. Supp.*—*Shaw's Zool.* 8. p. 152.—*Bewick's Br. Birds*, ed. 1826, p. t. 146.

Occasional
visitant.

Of late years, several individuals of this species have been killed in England; which facts authorise me to include it in the list of the British birds, as an occasional visitant.—It is met with, during the summer months, in various parts of the European Continent, viz. in the southern districts of France and Germany, in Spain, Italy, Sicily, and Sardinia. It is very numerous along the southern borders of Russia, particularly upon the Don and the Wolga, in the banks of which rivers it breeds, digging long horizontal holes for that purpose.—The nest is composed of moss, and other soft materials; and the eggs, of a pure white, are from five to seven in number. Upon the approach of autumn, these birds assemble in large flocks, and depart for more southern latitudes.

Nest, &c.

Food.

The food of the Bee-Eater consists of that tribe of insects from whence its name has been bestowed, as well as other winged insects, all of which it captures during its flight, like the Swallow. On the wing its motion is rapid, and its con-

tour and appearance are light and elegant. The specimens from the Cape of Good Hope are precisely similar to the individuals killed in Europe.

PLATE 41. Represents a male and female bird of this species, in the natural size.

Form typical. Bill black, forehead white, passing into pale verdigris-green. Crown of the head, nape of the neck, and upper part of the back, deep orange-coloured brown. Lower part of the back, and upper tail-coverts, saffron-yellow, passing into gallstone-yellow. Lesser wing-coverts bright grass-green; greater coverts pale orpiment-orange. Outer webs of the quills and tertials fine greenish-blue; in some shades greyish-blue. Tail greenish-blue; the two middle feathers darker, elongated, and pointed. From each corner of the mouth runs a black streak, passing the eyes, and through the ear-coverts, which, at its posterior extremity, joins a narrow black ring, that encircles the neck. Throat bright king's-yellow. Breast and belly greenish-blue. Legs very short of a blackish-brown colour. Irides red.

General
description.

Male bird.

The colours of the female are not so bright in tint as those of the male.

Female.

GENUS 'CORACIAS, LINN. ROLLER.

GENERIC CHARACTERS.

Bill cultrated, higher than broad, compressed, and strait; the upper mandible bent at the point. Gape wide. Nostrils in the base of the bill, linear, and lateral, pierced diagonally, and partly covered by a feathered membrane. Wings long, acuminate, having the first quill shorter than the second, which is the longest in the wing. Tarsus shorter than the middle toe. Feet having three toes before and one behind; toes entirely divided. Claws falcate, and sharp.

Of this genus only one species occurs in Europe.

They are all remarkable for beauty of plumage, and the prevailing colours are blues of different intensity, generally associated with purples and brilliant greens. They are wild insociable birds, and live in the retirement of the thickest forests.

Their food principally consists of insects. In many species the males are adorned by an elongation of the two outer tail-feathers.

The Rollers were arranged, by former systematists, in close connection with the crows and other birds of the Linnean order *Picæ*; and Mr VIGORS in a paper, "On the Arrangement of the Genera of Birds," (published in the Zoological Journal) has also made the genus *Coracias* the type of a group in the family of *Corvidæ*, although he has placed the members of the genus *Colaris*, most closely related to it, not only in a different *family*, but in a distinct and distant *tribe*. From an examination of the several species belonging to the genus, I have little hesitation in removing it from the *Corvidæ* (to which it bears only a relationship of analogy), and placing it, together with *Colaris*, &c. in the tribe of *Fissirostres*, a station also given to it by one of the most distinguished ornithologists of the present day*. I have provisionally placed it, as an aberrant form, amongst the *Meropidæ*, as a further examination may evince the propriety of its transference to the *Halcyonidæ*, belonging to the same tribe, and meeting the *Meropidæ* at the other extremity of the circle.

* See Mr SWAINSON's remarks on the *Corvidæ*, in the Second Volume of "Northern Zoology," page 289.

GARRULOUS ROLLER.

CORACIAS GARRULA, Linn.

PLATE XXXIV.

*Coracias garrula, Linn. Syst. 1. p. 159. 1.—Fauna Suec. No. 94.—Gmel.**Syst. 1. p. 378.—Lath. Ind. Ornith. 1. p. 168. 1.**Galgulus, Briss. 2. p. 64. 1. t. 5. f. 2.**Cornix cœrulea Gesneri, Raii Syn. p. 42.—Will. p. 85.**Pica marina, Raii Syn. p. 41.—Will. 89.**Garrulus argentoratensis, Raii Syn. 41.—Will. 89.**Le Rollier, Buff. Ois. v. 3. p. 135. t. 70.—Id. Pl. Enl. 486.**Rollier vulgaire, Temm. Man. d'Ornith. v. 1. p. 127.**Blaue-Racke, Meyer, Tasschenb. Deut. v. 1. p. 106.—Frisch, Vög. t. 57.**Roller, Br. Zool. App. t. 2.—Will. (Ang.) 131. t. 20.—Arct. Zool. 2. p. 235.**—Lewin's Br. Birds, 2. t. 42.—Lath. Syn. 1. p. 406. 1.—Id. Suppl. p. 85.**—Mont. Ornith. Dict.—Walc. Syn. 1. t. 41.—Bewick's Br. Birds, 1. t. 85.*

As a few accidental stragglers of this species have at different times been taken in Great Britain, I have been induced to admit it into the list of the British Fauna. The figure accompanying this work was drawn from a specimen now in the Edinburgh Museum, and which was killed at Dunkeld a few years ago. I had also an opportunity of examining another (a female bird) that was found dead in a plantation at Howick House in Northumberland, the seat of Earl GREY *. In Germany it is very common, inhabiting the oak forests of that country; and is also numerous in many parts of Sweden and Denmark.—It builds in the holes of decayed trees, and lays from four to seven eggs of a clear bluish-white.—Grass-hoppers, snails, millepedes, and other insects, are its principal food. It is a bird of restless and fierce disposition, and very clamorous. Rare visitant.

* June 19. 1828. A specimen of the Roller was sent to me by Mr GOOD, that was taken on board a vessel bound from America to the Port of Berwick, but in what latitude I did not learn. It appeared to be a male from the brilliancy of its plumage, but was not in a state to admit of the fact being ascertained by dissection.

A specimen of the present species is now in the possession of Sir WM. JARDINE; killed at Orkney in 1827, and sent to him as a curious kind of Duck.

PLATE 34. Natural size.

General
description.

Bill yellowish-brown at the base, the tip black. At the base of the bill are a few black bristles. Irides yellowish-brown. Behind each eye is a small bare tubercle. Head, neck, breast, and belly verditer-blue, in some parts inclining to verdigris green. Back and scapulars reddish wood-brown. Smaller wing-coverts rich auricula-purple, those next to them pale ultra-marine blue. Basal part of quills plum-purple. The tips dusky. Rump purple. Tail consisting of twelve feathers, the outermost (elongated in the male bird) pale ultra-marine blue, tipped with black; the rest blackish-green. Legs wood-brown.

FAMILY II. HIRUNDINIDÆ.

In this typical Family, the fissirostral characters, as might be expected, are found existing in a pre-eminent degree; the gape being very extensive, (the commissure reaching as far as the posterior angle of the eye), while the external or prominent part of the bill is short and weak; the wings being much produced, narrow, and acuminate, and the tail generally more or less forked, characters indicative of a swift and strong flight. The legs, in accordance with the little use made of them in progressive motion, are always short, and generally weak; but the toes are furnished with sharp and hooked claws, which in some genera are of great strength, enabling them to grasp and adhere to the perpendicular faces of rocks, buildings, hollows of trees, and other places where they habitually roost and breed. They are widely disseminated over the globe, and are met with in almost all climates at certain periods of the year, most of the genera being of migratory habits. They prey upon insects, which they capture upon wing; some few are also stated to devour berries occasionally, and in such we observe a greater strength and

length of bill, approaching in shape to that of some of the *Ampelidæ* of the Dentirostral tribe. Their nidification is curious, many of the genera forming the receptacle for their eggs of mud or clay, others of extraneous matters, agglutinated by a viscous liquid, provided from a glandular apparatus peculiar to such species*. During their migratory movements they fly in immense flocks, and also frequently breed in large societies.

GENUS HIRUNDO, LINN. SWALLOW.

GENERIC CHARACTERS.

Bill short, much depressed, and wide at the base; upper mandible bent at the tip, and carinated. Gape extending as far backwards as the eyes. Nostrils basal, and oblong, partly covered by a membrane. Feet having the tarsi short, toes slender, three before and one behind; the outer toe united to the middle one, as far as the first joint. Tail of twelve feathers, generally forked. Wings long and acuminate, the first quill-feather being the longest.

The species of this genus are very numerous, and are spread throughout every part of the globe. Their food consists entirely of winged insects, which they seize with great dexterity during their flight. That flight is very rapid and buoyant, and is supported for a long time, without visible fatigue. The nidification of many of the genus is curious and peculiar; the exterior coat of the nest being compact and hard, generally formed of clay, or earthy materials; and the inner part lined with feathers and other soft substances. They moult but once in the year, which takes place in *Fe-*

* The nests of some exotic species, almost entirely formed of this viscous matter, are highly esteemed as a condiment by the Chinese and other Eastern nations.

bruary, and proves the impossibility of the hybernation of these birds.

The British species are migratory.

CHIMNEY SWALLOW.

HIRUNDO RUSTICA, Linn.

PLATE XLII. FIG. 1.

- Hirundo rustica*, Linn. Syst. 1. p. 343. 1.—Gmel. Syst. p. 1015.—Lath. Ind. Ornith. v. 2. p. 572.
Hirundo domestica, Raii Syn. p. 71. A. 1.—Will. p. 155. t. 39.—Briss. 2. p. 486. 1.
Hirondelle de Cheminée ou domestique, Buff. Ois. v. 6. p. 591. t. 25. f. 1.—*Id.* Pl. Enl. 543. f. 1.—Temm. Man. d'Ornith. v. 1. p. 427.
Die Rauch Schwalbe, Bechst. Naturg. Deut. v. 3. p. 902.—Meyer, Tasschenb. v. 1. p. 276.
Chimney or Common Swallow, Br. Zool. 1. No. 168. t. 58.—Arct. Zool. 2. No. 330.—Will. (Ang.) p. 212.—Albin. 1. t. 45.—Lewin's Br. Birds, 3. t. 123.—Lath. Syn. 4. p. 561.—*Id.* Supp. p. 192.—Mont. Ornith. Dict.—*Id.* Sup.—Bewick's Br. Bird, 1. p. t. 261.—Low's Faun. Orcad. p. 73.—Shaw's Zool. v. 10. p. 84.—Walc. Syn. 2. t. 251.—Pult. Cat. Dorset, p. 13.

Periodical
visitant.

THE Chimney Swallow generally makes its appearance in the south of England early in April, but is seldom seen in the northern counties, or in Scotland, before the middle or latter part of that month. After incubation, and when the young birds have acquired sufficient strength to undertake their long journey, which is the case about the end of September, they prepare for their migration to the warm regions of Africa, where they pass the hyemal months. I consider it unnecessary, in the present advanced state of knowledge, to offer many observations on the once prevalent notion of the hybernation of Swallows in this country, as the wonderful laws which regulate the migration of birds are alone sufficient to account for the phenomena of their appearance and disappearance at stated periods. From the experiments made, it appears that the Swallows which have been kept in confinement regularly moulted in *February*,—a fact totally

at variance with the idea of the bird going into such a torpid state as has been represented, and sufficient to prove the improbability, nay, I may say impossibility, of such an event.

Let it be admitted, that a few individuals may, at different times, have been found in a half-dead or benumbed state, under the eaves of houses, or in similar places of retreat, (the natural consequence of remaining in an uncongenial climate), such will, doubtless, have been young birds of late hatchings, not able to undergo the fatigue of so long a flight, or old birds, reduced by sickness and other casualties to a similar condition; and all of which, I should be strongly inclined to believe, die before the expiration of the winter. As a proof that the circumstances may happen, I adduce two instances of having found this bird in the months of December and February, both of which individuals appeared to have recently died.

The food of the Swallow consists entirely of insects, which it takes with great dexterity on the wing. During the summer, the scenery of the margins of rivers, and the quiet surface of lakes and other pieces of water, are enlivened by the busy flight of this, and the other species of Swallow, attracted by the swarms of winged insects that are always found in such situations. When feeding, it flies with the mouth extended, and the capture of its prey is attended with a snap of the bill, audible by an attentive ear. It drinks also, and frequently bathes, whilst on wing. Food.

In England, this species generally breeds in chimneys, whence arises its English specific name; sometimes in out-houses; and where coal-pits abound, its habitation may frequently be seen fixed against the side of a deserted shaft.—The nest is open at the top, and formed of clay or mud, Nest, &c. lined with feathers, and other soft materials. The eggs are white, speckled with reddish-brown, and are four or five in number. These birds begin to build soon after their arrival, and produce two broods in the year, one of which flies in June, and the second about the middle or latter part of

August. The young, after quitting the nest, are fed for some time on wing by the parent birds, which is effected with great celerity, and only to be seen by a very attentive observer. Previous to migration, Swallows collect in immense flocks, and may be seen thus upon house-tops, roofs of churches, or upon trees by the sides of rivers or ponds; which latter situation is selected, not for the purpose of retiring into the water to hibernate, as occasionally asserted, but on account of the plentiful supply of food afforded by such situations.

PLATE 42. Fig. 1. Natural size.

General
description.

Bill black. Forehead and throat deep orange-brown. Sides of the neck, back, wings, and pectoral band, black, with blue reflections. Tail deeply forked, the two outer feathers long and pointed; a large white spot on the inner webs of all the feathers, except the two middle ones, which are entirely black. Belly and vent reddish-white, more or less tinged with reddish-brown. The female has rather less of the orange-brown on the forehead. The black is less brilliant, and the two outer tail-feathers are rather shorter than in the male bird. The young do not acquire the long tail-feathers till after the first moult.—White varieties are sometimes to be met with. A specimen, taken at Acton in Northumberland, is in my possession, which is of a pure white above, with the chin and under parts reddish-white.

MARTIN.

HIRUNDO URBICA, Linn.

PLATE XLII. FIG. 2.

- Hirundo urbica, Linn. Syst. 1. p. 344. 3.—Gmel. Syst. 1. p. 1017. sp. 3.—Lath. Ind. Ornith. v. 2. p. 573. sp. 3.—Fau. Suec. 1. No. 271. 1.*
Hirundo rustica sive agrestis, Raii Syn. p. 71. A. 2.—Will. p. 155. t. 39.—Briss. 2. p. 490. 2.
Hirondelle à Cul-blanc ou de Fenêtre, Buff. Ois. v. 6. p. 614. t. 25.—Id. Pl. Enl. p. 542. f. 2.
Hirondelle de Fenêtre, Temm. Man. d'Ornith. v. 1. p. 428.
Housschwalbe, Bechst. Naturg. Deut. v. 3. p. 915.—Meyer, Tasschenb. Deut. v. 1. p. 277.—Frisch. t. 17. f. 2.
Martin or Martlet, Br. Zool. 1. No. 169.—Arct. Zool. 2. No. 331.—Albin. 2. t. 56.—Lewin's Br. Birds, 3. t. 123.—Will. (Aug.) p. 212. t. 39.—Lath. Syn. 4. p. 564. 3.—Id. Sup. p. 192.—Mont. Ornith. Dict.—Id. Sup.—Walc. Syn. 2. t. 251.—Pull. Cat. Dorset. p. 13.—Bewick's Br. Birds, v. 1. t. 261.—Low's Fau. Orcad. p. 73.—Shaw's Zool. v. 1. p. 84.

THE first appearance of the Martin in this country is a Periodical
 few days after the preceding species, and, on its first arrival, ^{visitant.}
 it is usually seen in warm and low situations; such being
 most likely to furnish a full supply of its natural food. It
 is very generally dispersed throughout the kingdom, and is
 found wherever man has fixed his residence, seeming to court
 his protection. It commences nidification early in May, if
 the weather proves favourable, and builds in the upper angles
 of windows, and under the eaves of houses; sometimes under
 the arches of bridges, or against the face of rocks*. The Nest, &c.
 nest is formed of mud compactly worked and cemented by
 means of its bill, and is closed all around, except a small
 orifice, usually on the most sheltered side, and just of suffi-
 cient size to admit a passage to the inhabitants. It is well
 lined with a collection of straw, hay, and feathers. MON-
 TAGU observes, that both the male and female are frequently

* Great numbers of this species annually breed about the lofty perpen-
 dicular cliffs of St Abb's Head, on the coast of Berwickshire; a great
 breeding resort also of the *Alcaæ*, and certain species of *Gulls*.

seen in the nest together, in which place the act of consummation is performed. The eggs are five or six in number, of a transparent or pinkish-white. The young are at first fed in the nest, but afterwards at the orifice, the parent birds adhering to the outside by the aid of their claws. When able to fly, they are still fed on the wing for a considerable time, like the Chimney Swallows. Two broods are commonly produced in the year, the first being able to fly in July, the second in August or September, some time previous to their migration. About the beginning of October, Martins congregate in vast numbers, frequently almost covering the roofs of houses, particularly in the villages upon the banks of the Thames. Towards the middle of the month they begin to depart, and continue to do so in flocks till about the 6th or 8th of November, after which time few are seen; and these, in all probability, are weak birds, that find themselves incapable of undertaking the journey, and perish under the first attack of the winter's severity. The form of this species is thicker than the Chimney Swallow; the wings also and tail are shorter in proportion to the size of the body. The flight of the Martin is very smooth and buoyant, but not so rapid, or attended with such sudden evolutions, as the preceding species. During the season of incubation, and when both birds are in the nest, it frequently utters its song, the notes of which, though guttural, are soft, and the cadences are pleasing. According to TEMNINCK, the migration of the Martin does not extend beyond the Tropics.

PLATE 42. Fig 2. Natural size.

General
description.

Bill black. Head, back part of the neck, and upper part of the back, glossy bluish-black. Wings and greater coverts brownish-black. Tail the same, and forked. Under parts and rump snow-white. Tarsi and toes clothed with downy white feathers.

White varieties of this as well as the other species sometimes occur.

SAND-MARTIN.

HIRUNDO RIPARIA, Linn.

PLATE XLII. FIG. 3.

Hirundo riparia, Linn. Syst. 1. p. 344. 4.—Fauna Suec. No. 273.—Gmel. Syst. 1. p. 1019.—Lath. Ind. Ornith. 2. p. 575. 10.—Rati Syn. p. 71. A. 3.—Will. p. 156. t. 39.—Briss. 2. p. 506.—Wils. Amer. Ornith. v. 5. p. 46. pl. 38. t. 4.
L'Hirondelle de Rivage, Buff. Ois. v. 6. p. 632.—Id. Pl. Enl. 543. f. 2. the young.—Temm. Man. d'Ornith. v. 1. p. 429.
Uferschwalbe, Bechst. Naturg. Deut. v. 3. p. 922.—Meyer, Tasschenb. Deut. v. 1. p. 278.—Frisch, t. 18. f. 2. A.
Sand-Martin, Br. Zool. 1. No. 170.—Arct. Zool. 2. No. 332.—Albin. 2. t. 56. 6.—Lewin's Br. Birds, t. 125.—Lath. Syn. 4. p. 568. 10.—Will. (Ang.) p. 213. t. 39.—Mont. Ornith. Dict.—Walc. Syn. 2. t. 253.—Pall. Cat. Dorset. p. 12.—Bewick's Br. Birds, 1. p. 258.—Low's Fau. Orcad. p. 74.—Shaw's Zool. v. 10. p. 104. pl. 11.

PROVINCIAL.—Sandy-Bank, Sand-Swallow.

THIS bird is the earliest of the tribe in its visit to Britain, and is first seen about the end of March. Periodical
visitant.

It is partially distributed through the country, and is only found, in any considerable number, in such districts as offer suitable situations for its peculiar mode of nidification, which is confined to precipitous sandy banks, whether as the boundary of rivers, or otherwise.—In these, by means of its bill and claws, it burrows horizontally, to a considerable depth, and, at the end of the hole, makes a nest of hay, straw, feathers, &c. on which it deposits four or five white eggs. Nest, &c. Mr Iow states this species to be very common, and more numerous than the other, in the Orkney Islands.—It is mostly seen skimming the surface of lakes and rivers, where it meets with an abundant supply of gnats, and other aquatic flies. Food. Its manners are similar to those of the other species, with which it frequently associates, though I am not aware that it assembles in flocks, like them, previous to its periodical departure. It is the smallest of the genus that visits Great Britain.

PLATE 42. Fig. 3. Natural size.

General
description.

Bill black. The upper parts, cheeks, and pectoral band, dark hair-brown. Wings clove-brown, inclining to blackish-brown. Throat, belly, and upper tail-coverts, white. Tail brown, forked. Tarsi and toes naked, with the exception of a few small feathers placed at the insertion of the hind toe. The female is similar in plumage to the male bird.

The young have the upper parts of their plumage bordered with pale or wood-brown; and the tail-feathers margined with yellowish-white.

GENUS CYPSELUS, *ILLIG.* SWIFT.

GENERIC CHARACTERS.

Bill very short, depressed, and wide at the base, triangular; the gape extending beyond the posterior angle of the eye; upper mandible deflected at the point. Nostrils cleft longitudinally on each side of the ridge, open, with a prominent margin, beset with small feathers. Feet having the tarsi very short and thick; toes four, all directed forwards, entirely divided, of two phalanges each, strong, and armed with thick and hooked claws. Tail composed of ten feathers. Wings very long, the first quill being rather shorter than the second.

Dr LATHAM, in his *Index Ornithologicus* (under the head *Hirundo Apus*), first suggested the propriety of separating the Swifts from the Swallows. In this idea he is supported by ILLIGER, TEMMINCK, and other eminent naturalists, who have accordingly adopted the generic term *Cypselus* for these birds. In many respects they resemble the preceding genus, feeding and living much in the same manner. They construct their nests in the holes of buildings, or in the clefts of rocks, forming them of various soft materials, col-

lected upon the wing, cemented together by a viscid matter, secreted for that purpose, by appropriate glands. They never alight upon the ground; the shortness of their legs, compared with their great length of wing, preventing their rise from a flat surface.

COMMON SWIFT.

CYPSELUS MURARIUS, Temm.

PLATE XLII. FIG. 4.

Cypselus murarius, Temm. Man. d'Ornith. v. 1. p. 434.
Hirundo Apus, Linn. Syst. 1. p. 344. 6.—*Gmel.* Syst. 1. p. 1020. sp. 6.—
Lath. Ind. Ornith. v. 1. p. 582. sp. 32.—*Fau.* Suec. No. 272.—*Raii* Syn. p. 72. A. 4.—*Will.* p. 156. t. 39.—*Briss.* 2. p. 512. 15.—*Id.* 8vo. 1. p. 301.
Micropus murarius, Meyer, Tasschenb. Deut. v. 1. p. 281.
Brachypus murarius, *Id.* Vög. Liv. und Esthl. 143.
Le Martinet noir ou Grand Martinet, Buff. Ois. v. 6. p. 643.—*Id.* Pl. Enl. 542. f. 2.—*Temm.* Man. d'Ornith. v. 1. p. 434.
Thurm-schwalbe, Bechst. Naturg. Deut. v. 3. p. 929.—*Frisch.* Vög. t. 17. f. 1.—*Meyer*, Vög. v. 1. Heft. 4.
Swift, Br. Zool. No. 171. t. 57.—*Arct.* Zool. 2. No. 334.—*Will.* (Ang.) p. 214.—*Albin.* 2. t. 55.—*Lewin's* Br. Birds, 3. t. 126.—*Lath.* Syn. 4. p. 584. 34.—*Pult.* Cat. Dorset. p. 13.—*Mont.* Ornith. Dict.—*Walc.* Syn. t. 254.—*Bewick's* Br. Birds, v. 1. p. 259.

PROVINCIAL.—Screech, Develing, Black Martin.

THIS is the only British species of its genus, and is with us a summer visitant*. Periodical visitant.

The Swift is seldom seen in the northern parts of England before the end of May, or the beginning of June; in the south it arrives a week or two earlier. It leaves us again for warmer climates in August, a month or six weeks previous to the departure of the Swallows. In this country it haunts

* Since the publication of the first edition of this volume, a specimen of the Alpine Swift (*Cypselus alpinus*), was sent to me by WILLIAM SINCLAIR, Esq. of Belfast, which was killed within eight or ten miles of the south coast of Ireland. Mr SINCLAIR thinks it probable that the species annually resorts to that part of the island, but as such a fact has not been ascertained, I only thus casually mention it.

cathedrals, towers, churches, and other buildings not constantly inhabited, in the holes, and under the eaves of which it finds a safe retreat, and proper situation to build in.—The Nest &c. nest is formed of straw and other suitable materials, which it collects with great dexterity in its flight.

These are cemented together, and the inside of the nest is plastered with a viscid substance, furnished by glands peculiar to certain birds of this genus. The eggs are usually two, but TEMMINCK says three or four, of a transparent pinkish-white. The form of the Swift is admirably adapted to its mode of life, the greater part of which is passed in floating through the air. Its head is broad and flat, the neck very short, and the wings longer in proportion to its size and weight, than those of any other bird. Except during the short periods of nightly repose, the Swift is constantly upon wing; in fine weather flying at a great height, and describing extensive circles with an easy sweeping motion; in a damper state of the air its flight is nearer to the ground; in both cases regulated by the situation of its insect prey, which is higher or lower as directed by the atmospheric changes. It has been remarked that these birds delight in sultry weather, with approaching thunder-storms, at such times flying in small parties, with peculiar violence, and as they pass near steeples, towers, or corners of buildings, uttering loud screams, which WHITE, in his Natural History of Selborne, supposes to be a sort of serenade to their respective families. This is fanciful and pretty; but I should rather be inclined to reason the opposite way, and to consider this action and cry as the consequences of irritability, excited by the highly electrical state of the atmosphere at such times*. The above mentioned scream is the only note this bird possesses. Like the Swallows, it is frequently seen skimming the surface of lakes and rivers in pursuit of its food, and, like them also, it both drinks and bathes upon

* See note in the account of the Green Woodpecker.

the wing. The shortness of the tarsi, and the great length of the wings, render the Swift unable to rise from an even surface; it is therefore (as if conscious of such inability) never seen to alight on the ground. It can, however, fix itself with ease against the perpendicular face of walls or rocks, by means of its strong toes and hooked claws, which are disposed in a different manner from those of the preceding genus.

It is found throughout the Old Continent, but has not been met with in America. According to TEMMINCK, it does not migrate beyond the Tropics.

PLATE 42. Fig. 4. Natural size.

Bill black. Throat smoke-grey. The rest of the plumage greenish-black, with reflections; the feathers close in texture, and firmly pressed together. Tarsi covered with small feathers. Irides brown.

General
descrip-
tion.

FAMILY III.—CAPRIMULGIDÆ.

THE members of this family (which forms the second *typical* division of the tribe) are birds of nocturnal or crepuscular habits, clothed with a plumage, both in texture and appearance, very similar to that of the Owls, with which raptorial group they are brought into close connection by means of the genus *Podargys*, where the bill acquires great strength and convexity, and the space around the eyes and base of the bill becomes furnished with radiating hairy feathers. In the typical genera the external or horny part of the bill (as in the *Hirundinidæ*) is very small and slender, the gape very large, and its margin beset at regular distances with long stiff bristles, moveable when requisite, and, by their converging power, of use in securing and detaining their prey. The legs are short and weak, but there is a full development of wings and tail, and consequently a correspond-

ing power of flight, and, as in the Swallows, their prey (consisting of *Phalænæ* and other insects) is taken entirely upon wing. In the aberrant forms the wings become much shorter and rounded, and the bill acquires greater size and strength, most displayed in the before mentioned genus *Podargus*. In some the tarsi also become elongated; and according to these differences of structure a corresponding variation is wrought in their economy. In Britain we only possess a single species of the typical genus *Caprimulgus*; the members of the other genera (*Egotheles*, *Podargus*, &c.), being natives of the warmer climates of Asia, Africa, and America.

GENUS CAPRIMULGUS, LINN. GOATSUCKER.

GENERIC CHARACTERS.

Bill very short, weak, curved at the tip, broad and depressed at the base; the upper mandible deflected at the point. Gape very large, and extending as far as, or beyond, the posterior angle of the eyes. The basal edge of the upper mandible bordered with strong moveable bristles directed forwards. Nostrils basal, tubular, or with a large prominent rim, clothed with very small feathers. Wings long, the first quill shorter than the second, which is the longest of all. Tail rounded or forked, of ten feathers. Feet having the tarsi short, toes three before and one behind, the anterior ones united as far as the first joint by a membrane; the claw of the middle toe broad, and serrated on the inner edge.

The members of this curious genus are nocturnal and crepuscular feeders, and have, not unaptly, been termed *Night Swallows*. Here, however, the approach to the *Strigidæ* is not so conspicuous, as it is seen in the great curvature and horny mass of bill of the genus *Podargus*, belonging to this family; which also possesses to a certain extent the radiating

feathers that surround the eyes and base of the bill in the Owls. The eyes and ears are also large and prominent in the whole of this genus, and the texture of the feathers very soft and delicate. Their food consists of the *Phalænæ* and other winged nocturnal insects, which they take with extended mouth during their flight. They moult once in the year, and the males are generally to be distinguished from the other sex by white spots ornamenting some of the quills, and the tips of the outer tail-feathers.

Some of the exotic species are decorated by extraneous feathers, or other appendages, issuing from the wings, tail, or bill.

EUROPEAN GOATSUCKER.

CAPRIMULGUS EUROPEUS, Linn.

PLATE XIII *.

- Caprimulgus europæus, Linn.* Syst. 1. p. 346. 1.
 Fau. Suec. No. 274.—*Gmel.* Syst. 1. p. 1027.—*Lath.* Ind. Ornith. v. 2. p. 584. 5.—*Raii* Syn. p. 26. A. 1.—*Will.* p. 70. t. 14.—*Briss.* 2. p. 470. 1. t. 44.
Caprimulgus punctatus, Meyer, Tasschenb. Deut. v. 1. p. 284.
L'Engoulevent, Buff. Ois. v. 6. p. 512.—*Id.* Pl. Enl. 193.
L'Engoulevent ordinaire, Temm. Man. d'Ornith. Tagschlafer.—*Bechst.* Naturg. Deut. v. 3. p. 940.—*Frisch,* t. 100.
Geitmelker, Sep. Nederl. Vög. v. 1. t. p. 39.
 Nocturnal Goatsucker, *Br. Zool.* 2. No. 173. t. 59.
 European Goatsucker, *Arct. Zool.* 2. p. 437. A.—*Will.* (Ang.) p. 107.—*Albin.* 1. t. 10.—*White's* Hist. Selb. p. 62. 94.—*Lath.* Syn. 4. p. 593. 5.—*Id.* Supp. p. 194.—*Lewin's* Br. Birds, 3. t. 127.—*Mont.* Ornith. Dict.—*Id.* Supp.—*Pull.* Cat. Dorset. p. 13.—*Walk.* Syn. 2. t. 255.—*Don.* Br. Birds, 3. t. 67.
 Night Jar, *Bewick's* Br. Birds, v. 1. p. t. 262.

PROVINCIAL,—Dor-Hawk, Fern-Owl, Night-Hawk, Jar-Owl, Churn-Owl, Wheel-bird.

THE Goatsucker is a summer periodical visitant, arriving in Britain about the end of May, or beginning of June, and departing in September, or in the commencement of the ensuing month. Periodical visitant.

It is rather impartially distributed throughout the kingdom, and is found in woods or narrow wooded valleys, particularly in the immediate neighbourhood of meadows or dry tracts of pasture ground. It is also very frequently met with in our upland districts, in those extensive fern-beds that clothe the slopes of grassy eminences, from whence has arisen its provincial name of *Fern-Owl*. It is impatient of the glare of daylight, and remains at rest upon the ground or perched lengthwise upon the horizontal branch of a birch or other tree, till after sunset ; when it sallies forth in pursuit of its food, consisting of the *Melalonthæ*, and other coleopterous insects, and the larger species of *Phalænæ*.

Food.

It flies with its capacious mouth fully extended, and as the bristles lining the edge of the upper mandible are capable of diverging or contracting, by means of muscles attached to their roots, they of course greatly assist in the capture and detention of its prey.—The flight of this bird, when thus hawking, is rapid, and attended with evolutions similar to those of the Swallow ; at other times, when disturbed, it is abrupt and wavering, though still buoyant. It breeds on the ground, making no nest, but generally selecting a dry spot, where the ferns have prevented the growth of the lower herbage.—It lays but two eggs, white, marbled with yellowish-brown and grey *. During the period of incubation, and after it has left its noonday retreat, the male utters a very peculiar noise, which has aptly been compared to that of a spinning-wheel ; this is produced when the bird is perched, with the head lowermost. It also utters a shrill cry during its flight.

Eggs.

In this species, the membrane that lines the inside of the mouth is very thin and transparent, particularly opposite to the posterior part of the eye, which organ is pretty clearly discernible through the membrane. As the mouth opens to

* To the nest, or rather *eggs*, of the Goatsucker, may be referred all the accounts, however plausibly narrated, of the *Cuckoo* incubating her own eggs, and rearing any offspring.

such great lateral extent, it has been suggested that the bird may possibly be capable of turning the eye in its socket, so far as to look through this almost transparent veil in a straight forward direction, when the mouth is extended in its nocturnal flights. I have consequently directed my attention to this point, but as yet without any satisfactory result.

I have not been able to discover any peculiar muscles attached to the eye or its coats, that can enable the bird to turn it in the direction suggested; and I may here observe also, that the size and prominence of this important organ gives it, in its fixed position, a sufficient field of vision for all the purposes of flight and capture of its prey.

The winter retreat of the Goatsucker is presumed to be in Africa and Asia, as the specimens from both countries correspond with our own. According to TEMMINCK, it is common in France and Germany, but rare in Holland.

PLATE 42 *. A male bird of the natural size.

General plumage ash-grey, spotted and streaked with yellowish-brown. On the head, and down the middle of the back, run long black streaks. Throat having large white spots. Under parts yellowish-brown, with transverse blackish-brown bars. Outer webs of the quills scalloped with orange-brown; the three exterior feathers having a large white patch on the inner webs near their tips. Tail marked with zigzag lines or bars of black, grey, and yellowish-brown; the two outer feathers on each side tipped with white. Bill very short; colour blackish-brown. Gape very wide. Irides dark. Legs short, yellowish-brown. The whole of the plumage is very soft, and silky to the touch.

The female is without the white spots on the quill-feathers and the white upon the tips of the outer tail-feathers. In other respects she resembles the male bird.

General
description.

Male Bird.

Female.

FAMILY V.—HALCYONIDÆ*.

WE now arrive at the Halcyonidæ, which constitutes the fifth and last aberrant family of the tribe, and which meets the *Meropidæ* at the other extremity of the circle, being closely connected with it by means of the genera *Galbula*, *Monasa*, &c., in which the bill acquires, in a great measure, the shape and proportions of that of the Bee-eaters. The typical form of this family exists in the genus *Alcedo*, as now restricted, and of which our common King's-fisher may be considered the representative. A great number of species formerly included in that genus by earlier systematists, have been separated from it under the genera *Halcyon* (of SWAINSON) and *Dacelo* (of LEACH); which exhibit a departure from the peculiar structure of the *true* King's-fisher, with regard to the bill and other parts, attended by a corresponding difference in their habits and economy. The Halcyonidæ prey upon animal matter, particularly fish and insects, which they take upon wing, seizing the latter in their flight, and the former by plunging down upon them as they rise to the surface of the water. Their feet are formed for grasping, but are incapable of aiding them in progressive motion, and their flight is rapid and direct. Their plumage, especially that of the typical group, frequently exhibits the richest and most vivid colours, with a metallic or varying lustre, as differently presented to the incidental rays of light. They are mostly natives of the warmer climates of the Old and New World, Europe boasting of but a single species of the genus *Alcedo*.

* We possess no British species of the family *Trogonidæ*, the 4th in this arrangement.

GENUS ALCEDO, *LINN.* KING'S-FISHER.

GENERIC CHARACTERS.

Bill long, straight, quadrangular, higher than broad, thick and pointed ; with both mandibles gradually tapering to the tip of the bill. Tongue fleshy, short, and armed at the point. Nostrils basal and lateral, pierced obliquely, and nearly closed by a naked membrane. Feet having the tarsi short, with three toes before, the outer toe being joined to the middle one, as far as the *second* joint ; the inner one the same, as far as the *first* ; and with one posterior toe, large at its base. Wings, with the first and second quills nearly equal, but shorter than the third ; which last is the longest in each wing.

The different species which compose this genus, are, with only one exception, natives of the other quarters of the globe, and are generally remarkable for splendour of plumage. They are inhabitants of the banks of lakes and rivers, living upon fish and aquatic insects. They fly with great rapidity, and usually lead a solitary life. They breed in the clayey banks of streams, and for this purpose form deep holes, by the aid of their bill and feet. Their form is short and thick.

COMMON KING'S-FISHER.

ALCEDO ISPIDA, Linn.

PLATE XL. FIG. 1.

- Alcedo Ispida*, *Linn. Syst.* 1. p. 179. 3.—*Gmel. Syst.* p. 448. sp. 3.—*Lath. Ind. Ornith.* v. 1. p. 252. sp. 20.—*Raii Syn.* p. 48. A. 1.—*Wül.* p. 101. t. 24.—*Briss.* 4. p. 471. 1.
- Gracula Atthis*, *Gmel. Syst.* 1. 398. sp. 8.—*Lath. Ind. Ornith.* v. 1. p. 192. sp. 10.
- Ispida Senegalensis*, *Briss.* 4. p. 485. 7. t. 39. f. 1.
- Le Martin Pecheur*, *Buff. Ois.* v. 7. p. 164. t. 9.
- Le Baboucard*, *Id.* v. 7. p. 193.—*Id.* Pl. Enl. 77.
- Martin Pecheur Alcyon*, *Temm. Man. d'Ornith.* v. 1. p. 423. v.
- Gemeine Eis Vögel*, *Bechst. Naturg. Deut.* v. 2. p. 1106.—*Meyer, Tasschenb. Deut.* v. 1. p. 134.—*Frisch*, t. 223.
- King's-Fisher*, *Br. Zool.* 1. No. 88. t. 38.—*Arct. Zool.* 2. p. 280. A.—*Albin*, 1. t. 54.—*Will. (Ang.)* p. 146. t. 24.—*Lath. Syn.* 2. p. 626. 16.—*Id.* Sup. p. 115.—*Lewin's Br. Birds*, 2. t. 52.—*Mont. Ornith. Dict.*—*Id.* Sup.—*Bewick's Br. Birds*, v. 2. t. 19.—*Pull. Cat. Dorset.* p. 6.—*Walc. Syn.* 1. t. 52.—*Don, Br. Birds*, 4. t. 100.—*Shaw's Zool.* 8. p. 88.

THIS splendid little bird is indigenous in Britain, and, in point of locality, is rather generally, though sparingly, diffused. It inhabits the banks of clear rivers and brooks, preferring those that flow with an easy current, and whose beds are margined with willows, alders, or close bushes. It is usually seen perched upon a small bough overhanging the stream, from whence it darts upon the small fish and aquatic insects that form its food.

Food.

Sometimes it will hover suspended (in the manner of the Kestrel and some other Hawks) over the water, and precipitate itself upon its prey, when risen to the surface. Upon making a capture, it conveys the object to land, and, after beating it to death upon a stone, or on the ground, swallows it whole. The bones and other indigestible parts are afterwards ejected in small pellets, by the mouth.—Its flight is very rapid, and sustained by a quickly repeated motion of the wings, and is always in a straight and horizontal direction, near to the surface of the water. These birds breed in

the banks of the streams they haunt, either digging a hole themselves, or taking possession of that of a water-rat, which they afterwards enlarge to suit their convenience. The bearing of the hole is always diagonally upwards, and it pierces two or three feet into the bank.—The nest is composed of Nest, &c. the above-mentioned pellets of fish-bones, ejected into a small cavity at the farther end of this retreat, and upon which the eggs are laid, to the number of six or seven, of a transparent pinkish-white. MONTAGU remarks, that the hole in which they breed is not fouled by the castings of the old birds, but becomes so by the droppings of the brood, which, being of a watery nature, cannot be carried away by the parents, as is usual with most small birds. Instinct has therefore taught them to make the hole in a sloping direction, in order to carry away the offensive matter, which may frequently be seen issuing from the entrance of this passage to the nest.

The young, when nearly fledged, are very voracious, and often reveal their habitation by their continued cry.

Attempts have been sometimes made to rear the King's-fisher in a state of confinement, but generally without success; as it will not live without a full supply of fresh fish, which it is difficult to procure at all seasons. Worms have been tried as a substitute, but without answering the intended purpose. For an account of the poetic fictions, and stories of earlier times relating to the Halcyon, my readers are referred to PENNANT'S account of this bird in his *British Zoology*.

This is the only species of an extensive genus that is found in Europe, throughout which it is generally dispersed; and it differs in no respect from the same bird in Asia and Africa, as I have had an opportunity of examining specimens from both Continents.

PLATE 40. Fig. 1. Natural size.

Bill blackish-brown, reddish at the base. Behind each eye General
is a patch of light orange-brown, succeeded by a white descrip-
tion.

one. From each corner of the under mandible proceeds a streak of verditer-blue, tinged with verdigris-green. Crown of the head deep olive-green, the feathers tipped with verdigris-green. From the nape of the neck to the tail is a list of verditer-blue feathers, tinged in some shades with verdigris-green. Wing coverts and quills deep greenish-blue, margined with pale greenish-blue, and tinged with verdigris-green. Chin and throat yellowish-white. Breast, belly, and vent, orange-brown, palest towards the under tail coverts. Tail greenish-blue; the shafts of the feathers black. Legs pale tiled.

TRIBE II. DENTIROSTRES, CUVIER.

The distinct emargination of one or both mandibles, near the tip of the bill, and which may be considered as analogous to the tooth or festoon of the typical *Raptores*, is the marked characteristic of the birds belonging to this division of the *Insessores*. This formation, though but in few instances so powerfully developed as to enable them to tear in pieces their prey, contributes essentially to the firmness and security with which they lay hold of it. In the *Laniadæ*, one of the typical families of the tribe, it is more distinctly prominent than in any of the others, and, as might be expected, we find the habits and food of the Shrikes more assimilated to those of the Raptorial order. In the Dentiros-tres, the bill is generally lengthened, so as to defend the face from the struggles of their prey, which is always taken by the aid of this member; or, where it is short and broad, the base is furnished with stiff projecting bristles, or having feathers that answer the same purpose of defence. The legs and feet are more fully developed than those of the *Fissirostral* tribe (with which, however, the necessary connexion is preserved by different members of the family of the *Todidæ*),

but they are less perfectly constructed than the feet of the *Conirostres*; as may be seen in the frequent connection of the middle and outer toes. The five natural families of this tribe are arranged in the following tribes, viz. *Todidæ* (by some named *Muscicapidæ*), *Laniadæ*, *Merulidæ*, *Sylviadæ*, and *Ampelidæ*; each of which is again divisible into inferior circles or subfamilies, but all united together by one unbroken chain of affinities.* The food of the present tribe of birds is of various kinds; that of the *Todidæ* and *Laniadæ* consisting almost exclusively of insects and animal matter; whilst in the *Merulidæ* and *Sylviadæ*, the smaller fruits frequently form a considerable part of it; and, in the *Ampelidæ*, it is still more confined to a vegetable nature.

FAMILY I. TODIDÆ.

As being closely allied to the preceding or Fissirostral tribe of the *Insessores*, the circle of the *Dentirostres* commences with the aberrant family of the *Todidæ* of SWAINSON, which, from a strict analysis of the forms it contains, embraces not only the genus *Todus* of the Authors, but also the Fly-Catchers (*Muscicapidæ*). Its members are distinguished by a bill, with the tip emarginated, broad, and depressed at the base, and beset with projecting bristles; legs short and weak; feet calculated for perching, but not for gressorial movements. Their food consists of insects, which they generally capture by irregular flights or irruptions upon them when passing the stations, where the birds sit pa-

* As the nature of this work precludes the possibility of entering fully into the various affinities in the feathered race, or even to point out the analogies running through all the major and minor divisions, I must refer my readers to the works of those who have written more expressly upon this point; particularly to the 2d vol. of the "Northern Zoology," where Mr SWAINSON has entered deeply into the subject, and traced it with the hand of a master.

tiently watching for their appearance. To the *Laniadæ* the present family is nearly related, by the apparent affinity between the Flycatchers, belonging to the genera *Fluvicola*, and the Tyrants (*Tyrannina*), a subfamily belonging to the preceding tribe. A near connexion also exists with the *Sylviadæ*, in which the genus *Setophaga* and some others make a close approach, in the increasing breadth of the base of the bill, in the bearded gape, and in habits, to some of the true Flycatchers. Of the various forms contained in this family, we only possess representatives of a single group, viz. the *Muscicapa* of Authors.

GENUS MUSCICAPA, LINN. FLYCATCHER.

GENERIC CHARACTERS.

Bill rather short, subtriangular, depressed at the base, strong, and compressed towards the tip, which is deflected, and with both mandibles emarginated. Base of the bill beset with long stiff bristles. Nostrils basal, oval, and lateral, partly concealed by the feathers at the base of the bill. Feet having the tarsus as long as, or rather longer than, the middle toe; toes three before and one behind, the side ones of equal length, the outer one joined at its base to the middle toe. Wings having the first quill very short, the second shorter than the third and fourth, which are the longest in each wing.

The members of this genus are confined to the Old World, and are found in all the temperate and warm climates. The few species, however, which visit Europe are all summer visitants, or (as sometimes called) *polar migrants*, and are only resident during the period necessary for the continuation of their kind.

The food of the genus, according to their appellation, con-

sists of insects, which they take upon wing with great dexterity, not, like the Swallow tribe, by meeting with them during their flight, but by sallies from their perched situation at the various flies that pass them. The male birds of some of the species are subject to a double moult, or rather to a partial change in the colour of the plumage, on the approach of spring, or the pairing season. During the rest of the year, they resemble the females.

SPOTTED FLYCATCHER.

MUSCICAPA GRISOLA, Linn.

PLATE XLIII*. FIG. 1.

Muscicapa grisola, *Linn. Syst.* 1. p. 328. 20.—*Gmel. Syst.* 1. p. 949.—*Lath. Ind. Ornith.* 2. p. 467.—*Briss.* 2. p. 357. 1. t. 35. f. 3.—*Raii Syn.* p. 81. 7.—*Will.* p. 153. 171.
Le Gobe-mouche, proprement dit, *Buff. Ois.* v. 4. p. 517. t. 25.—*Id.* Pl. Enl. 565. f. 1.
Gobe-mouche gris, *Tem. Man. d'Ornith.* v. 1. p. 152.
Geeleckter Flugenfänger, *Bechst. Naturg. Deut.* v. 3. p. 421.—*Meyer, Taschenb. Deut.* v. 1. p. 211.—*Frisch.* t. 22. f. 2. 6.
Spotted Flycatcher, *Br. Zool.* 1. p. 350. No. 134.—*Lewin's Br. Birds.* 3. t. 87.—*Lath. Syn.* 3. p. 323. 1.—*Mont. Ornith. Dict.*—*Hewick's Br. Birds.* v. 1. p. 196.—*Id. Supp.* p. 30.

PROVINCIAL.—Beam-Bird, Rafter, Bee-Bird.

THIS is one of our latest summer visitants, seldom making its appearance before the latter part of May, or until the woods are in complete foliage, when the particular insects also that compose its food are in full vigour and maturity. It is generally dispersed throughout the island, particularly in all wooded districts. It frequents our gardens and orchards during the season of incubation, and frequently builds upon the branches of fruit-trees that are nailed against walls, and sometimes in the forks and decayed holes of standard trees.

Periodical
Visitant.

Its nest, which is formed of moss and small twigs, lined Nest, &c. with hair and feathers, is often placed also upon the ends of the beams or rafters in garden-houses, and other out-build-

ings; and I have frequently met with it situated upon the ledge of a rock in our northern woody dells. It lays four or five eggs, of a greyish-white, spotted with pale orange-coloured brown. After its young have quitted the nest, it conducts them to some neighbouring wood or plantation, where they are very diligently attended and fed.

Food.

It seems to feed entirely on insects, chiefly of the Dipteous order, which are taken on the wing, by repeated sorties upon them, in passing, from its selected station, which is usually the top of a decayed branch, and to which it returns after each of these aerial attacks. It has been stated by PENNANT, and other authors, to be very partial to cherries, but this I have not been able to verify; and I am inclined to believe, that the Greater Pettychaps (*Sylvia hortensis*), a keen devourer of all the smaller fruits, has, in most instances, been mistaken for the present bird. The note of the Flycatcher is a monotonous weak chirp, and is not often heard till after the production of its young.

It seldom leaves the northern parts of Britain on its autumnal journey before the middle of October, and long after the departure of most of the Sylviadæ. Its summer or polar migration extends as far as Sweden and Norway. In Scotland it is of rare occurrence.

General
description.

PLATE 43*. Fig. 1. Natural size. Form typical.

Upper parts of the body light hair-brown; the crown of the head spotted darker. Throat and middle of the belly white. Sides of the neck, breast, and flanks, streaked with hair-brown. Bill and legs dark hair-brown.

The young, in their nestling (or first) plumage, have the feathers tipped with a spot of yellowish-white, giving them a pretty mottled appearance.

PIED FLYCATCHER.

MUSCICAPA LUCTUOSA, Temm.

PLATE XLIII*. Figs. 2, 3.

- | | |
|---|--------------------------------------|
| Muscicapa luctuosa, Temm. Man. d'Ornith. 1. p. 155. | |
| Gobe Mouche becfigue, Temm. id. | |
| Muscicapa atricapilla, Gmel. Syst. 1. p. 935. sp. 9.—Lath. Ind. Ornith. v. 1. p. 467. sp. 2. | |
| Rubetra Anglicana, Briss. Orn. v. 3. p. 436. sp. 27. | |
| Schwartzrückiger Fliegenfänger, Bechst. Naturg. Deut. p. 431.—Meyer, Tasschenb. Deut. p. 232.—Frisch. t. 24. f. 2. | } Syn. of Adult Male in summer. |
| Pied Flycatcher, Br. Zool. 1. 351. t. 135.—Arct. Zool. 2. p. 391.—Le-win's Br. Birds, 3. t. 38.—Lath. Syn. 3. p. 324. 2.—Mont. Ornith. Dict. Id. Suppl.—Bewick's Br. Birds, 1. p. t. 195. | |
| Motacilla ficedula, Gmel. Syst. 1. p. 936. sp. 10. | |
| Sylvia ficedula, Lath. Ind. Ornith. 2. p. 517. sp. 28. | |
| Muscicapa muscipeta, Bechst. Naturg. Deut. 3. p. 435. | |
| Le Becfigue, Buff. Ois. v. 5. p. 187.—Id. Pl. Enl. 668. | } Male, Female, and Young in winter. |
| Schwartzgräuer Fliegenfänger, Meyer, Tasschenb. Deut. v. 1. p. 213. | |
| Epicurean Warbler, Arct. Zool. v. 2. p. 419.—Lath. Syn. v. 4. p. 432. | |

THIS species has been treated as indigenous in some parts of our island by many of the British ornithologists, but I have not hitherto been able to determine whether this is a well-grounded assertion; and I was led to doubt, from my own experience being in direct opposition to it. Within the last two or three years, several specimens of this bird have fallen under my inspection, all of which were killed in the spring or summer.† I have inquired also in those districts

Occasional
visitant.

† Two specimens of the present species were sent to me for inspection by the Rev. T. GISBORNE, College, Durham, which were killed at Yoxall Lodge, in Staffordshire, on 20th August 1827. They were evidently young birds of the year, and precisely alike in colour and markings. Head and upper parts of the body grey, tinged with brown. Greater wing-coverts tipped with yellowish-white. Quills, commencing at the fourth, with a white spot at the base of the outer web. The two nearest the body having the whole of the web deeply margined with white. Chin and throat yellowish-white. Breast and under parts yellowish-white, tinged with grey. Tail brownish-black; the three outer feathers on each side having their exterior webs margined with white. Bill and legs black.

The following memorandum accompanied them: "Two supposed Fly-

where it has been most frequently met with, and consequently where, if indigenous, it was most likely to have been found during the winter; but in no quarter has any trace of its permanent residence been discovered, and my inquiries have been answered, by stating it as a bird that evidently arrives in the spring, and disappears in the autumn.

Its mode of life, and the species of food upon which it subsists, also militate against the idea of its wintering in this island; for, living entirely on winged insects, it would be impossible for it to procure an adequate supply of food during the severity of the winter season. I should even be inclined to consider the few individuals met with in England during the *summer*, as birds that have been driven rather out of the regular track of their polar migration; and the following fact goes far towards confirming this supposition. In May 1822, after a very severe storm of wind and rain from the south-east, several of these birds made their appearance in Northumberland, and I procured specimens of both sexes, the males being in different states of progress towards the summer's plumage. As the weather continued cold for some days subsequent to their appearance, they were obliged to resort to dunghills, and other warm situations, for a supply of their natural food. After remaining for about a fortnight to recruit their strength (for at first they exhibited great weakness), they all disappeared; nor could I ascertain that a single pair remained in that neighbourhood during the season of incubation.

Their manners, flight, and method of catching their prey, were similar to the preceding species; and they were generally mute.

The West Riding of Yorkshire, and the neighbourhood of Penrith in Cumberland, appear to be the districts in

catchers, shot whilst actively employed in coming down from the tops of oak trees to catch the flies, which the swallows also were busy in taking." Length $5\frac{1}{2}$ inches, breadth $7\frac{1}{2}$ inches; weight of the one 3 drs. 1 scr. 5 gra., of the other, 3 drs. 1 scr. 1 gr.

AFTER a careful examination of the descriptions by various authors, of the two small species of *Tringa* generally known under the specific titles of *Tringa pusilla* and *T. minuta*, the above list of synonyms appears to be strictly referable to the first-mentioned species, which is also known to many as the *T. Temminckii*, a name imposed by LEISLER, and adopted by M. TEMMINCK, in his excellent work the "Manuel d'Ornithologie," as well as in the "Planches Coloriées" of the same author. In adopting LEISLER's specific name for this bird, I agree with that naturalist and M. TEMMINCK in considering it as distinct from the *Tringa pusilla* of LINNÆUS, although LATHAM quotes that as synonymous with the *Little Sandpiper* of his Synopsis, which latter certainly appears to be the bird now under examination. Dr FLEMING, in his History of British Animals, also retains the title of *Pusilla* for this bird, stating, as his ground for which, that the character of the tail identifies it with the Linnean species. In this decision, I think he is not borne out by the terms used by LINNÆUS, which are, "rectricibus extimis scapo albo;" whereas, to suit the *T. Temminckii*, they ought to be "rectricibus extimis albis." The Linnean species is farther described as "corpore subtus rufescente;" that is, with the under parts of the body rufous or reddish—a character by no means applicable to the *T. Temminckii* at any period, or change of plumage, but which is so to another exotic species. The *Little Sandpiper* of the British Zoology, described as having the tail dusky, I have ventured to assign to the next species, as being more applicable to it; and the same with regard to the *Brown Sandpiper* of that work, which is distinctly stated as having the tail cinereous. The *Little Sandpiper* described in the Appendix to MONTAGU's Ornithological Dictionary is retained, as it agrees in every particular with the *Tringa Temminckii* of LEISLER, and of the "Manuel d'Ornithologie;" but the bird described under the same title in the Supplement to that work, I have transferred to the *Tringa minuta*, of which species it appears to be the young.

The *Pelidna pusilla* and *Pelidna Temminckii* of STEPHENS seem to be identical.

Occasional
visitant.

This delicate little species is known to us as an occasional visitant during the seasons of its migration, and several instances of its capture have been given of late years. Among others, two are mentioned in the second volume of the Zoological Journal, by that distinguished naturalist WILLIAM YARRELL, Esq., which were killed near Chichester in 1826; and I have in my possession a male and female killed in Norfolk in May 1830. In habits it resembles the rest of the tribe, but frequents more the interior lakes and rivers than the shores of the ocean. It feeds on insects, worms, and molluscous animals; and though it is supposed to retire for the purpose of reproduction to the higher latitudes of the north-eastern parts of Europe, the nest, colour of the eggs, &c. remain still unascertained. Upon the continent it is found in many parts of Germany, in its favourite localities, during the period of migration; but its stay is short, and it is never known to breed there. Similar as it is in size and general contour to the *Tringa minuta*, it may always be recognised from that species by the whiteness of the outer feathers, and the more perfectly wedge-shaped form of the tail, as well as by the tarsi of this bird being considerably shorter than those of *T. minuta*.

PLATE 27.* Fig. 1. Represents the adult bird, acquiring the summer plumage.

General
description.
Adult
bird.

Forehead white, speckled with pale hair-brown. Between the bill and eyes is a dusky streak, and over the eyes an indistinct whitish line. Chin and throat white, with a few minute brown specks. Crown, nape of the neck, and breast, ash-grey, spotted with hair-brown, and tinged with wood-brown. Back, scapulars, and wing-coverts hair-brown, tinged with olive; several black feathers with reddish margins being interspersed, indicating the commencement of the vernal change. Quills

deep hair-brown, glossed with olive-green. Tail cuneiform; the middle feathers deep hair-brown, and the outer ones on each side white. Belly, vent, and under tail-coverts white. Legs greenish-grey, with the tarsus about five-eighths of an inch long. Bill nearly the same length, black. In the perfect nuptial dress, the whole of the feathers of the upper parts are black in the centre, deeply margined with reddish-brown, and the middle tail-feathers also become edged with reddish-white.

Fig. 2. Is the young bird in its first or nestling plumage.

In this state of feather the forehead, throat, belly, vent, and under tail-coverts, are white. Over the eyes is a streak of white, with specks of ash-grey. The nape, sides of the neck, and breast, are ash-grey, tinged with pale wood-brown. Back, scapulars, and wing-coverts hair-brown, each feather being edged with a double zone of dark hair-brown and white, similar to the immature *Knot*. Quills and middle tail-feathers edged with white. Legs and bill paler than in the adult bird.

Young
bird.

MINUTE TRINGA.

TRINGA MINUTA, *Leisler*.

PLATE XXVII. * FIGS. 3. and 4.

- Tringa minuta*, *Leisler*, Nachtr. zu *Bechst.* Naturg. Deut. Heft 1. 74. art. 10.—*Flem.* Br. Anim. 1. 109. sp. 155.
Pelidna minuta, *Steph.* Shaw's Zool. 12. 105.
Tringa fusca? *Lath.* Ind. Orn. 2. 733. 26?
Becasseau échassées, *Temm.* Man. d'Ornith. 2. 624.
 Little Sandpiper, *Mont.* Ornith. Dict. Supp. Young.
 Little and Brown Sandpiper, *Penn.* Br. Zool. 2. 463. No. 195. and 473.
 No. 207.—*Lath.* Syn. Sup. 250.
 Minute Dunlin, *Steph.* Shaw's Zool. 12. 105.
 Little Stint, *Bewick's* Br. Birds, 122.—*Fox*, Newc. Mus. 114.

THIS appears to be the bird most commonly described by our writers as the Little Sandpiper (*Tringa pusilla* of LIN-

NEUS), though the same objections hold good with respect to its identity, which I have previously stated as prevailing in the case of *T. Temminckii*, with which species also I have no doubt it has been frequently confounded. In size it rather exceeds that bird; but its form and general appearance are so similar, as to render a narrow inspection absolutely necessary to ascertain the peculiar characters that distinguish the one from the other. The first essential difference observable is in the comparative length of the tarsus, being in *T. minuta* fully seven-eighths of an inch long, whilst in *T. Temminckii* it does not exceed five-eighths.

The form of the tail also varies from that of the latter bird (which I have described as *wedge-shaped*), being *doubly forked*; that is, the two middle feathers and the outer one on each side are longer than the intermediate ones, thus giving to each half of the tail a forked appearance; added to which, its colour is dissimilar, the whole of the feathers being of an uniform pale hair-brown, with the exception of the central ones, which are deep lustrous hair-brown. The legs and feet also of the present species vary, by being of a darker colour. Like the *T. Temminckii* it can only be con-

Occasional
visitant.

sidered in the light of an occasional visitant, during its autumnal migrations. In addition to the instances recorded by MONTAGU, BEWICK, and others, Mr YARRELL, in the Zoological Journal, mentions four of these birds that were killed in 1826, and I have since met with other specimens, all killed in the southern parts of England, as it is very rarely met with in the northern districts of the island. According to TEMMINCK, it is not uncommon during its autumnal passage in the extensive marshes of Holland; and it is also frequently found on the margins of lakes and rivers in France and Germany. It is very common upon the lake of Geneva; and I have received specimens in almost perfect summer plumage from Italy, as well as others from India, which appear to be identical with the European kind. It feeds upon the smaller water-insects, worms, and mollusca. It has not yet

Food.

been ascertained where it retires to breed, but from its line of migration, the summer retreat will probably be found in the north-eastern parts of Europe, and in Northern Asia.

Fig. 3. Represents the adult bird in summer plumage.

Forehead, eye-streak, chin, throat, abdomen, vent, under and side coverts of the tail, pure white. Crown of the head blackish-brown, the feathers being margined with pale reddish-brown. Nape of the neck ash-grey. Breast-feathers spotted with hair-brown, and margined with yellowish-brown. Back, scapulars, and tertials deep hair-brown, the feathers being margined with reddish-brown and yellowish-white. Lesser coverts, near the ridge of the wings, plain hair-brown, the rest edged with reddish-brown and yellowish-white. Quills deep hair-brown, with white shafts. Tail doubly forked, the two middle feathers deep hair-brown, with reddish-white edges; the others pale hair-brown, faintly edged with white. Tarsus seven-eighths of an inch long. Legs and toes blackish-grey.

General
description.
Adult
bird.

Fig. 4. Is the young of this species;—in which state it very closely resembles the immature bird of the preceding one. The eye-streak is, however, more distinct, and the breast more inclined to pale yellowish-brown. The dark zone which encircles each feather in the upper parts of the body is also more defined and intense in colour, giving a spotted appearance. The comparative length of the tarsus, as in the adult, is of itself sufficient to distinguish it from *T. Temminckii*.

Young
bird.

PURPLE OR ROCK TRINGA.

TRINGA MARITIMA, Brun.

PLATE XXVI. FIG. 6.

- Tringa maritima*, Brun. No. 182.—Gmel. Syst. 1. 678.—Lath. Ind. Orn. 2. 731. sp. 18.—Markw. Cat. Birds in Trans. Linn. Soc. 4. 22. Tab. 1.
Tringa nigricans, Mont. in Linn. Trans. 4. 40. Tab. 2.
Tringa striata, Flem. Br. Anim. 1. 110. sp. 157., but not the *T. striata* of Lath. and Gmel., which refers to *Totanus calidris*.
Tringa canadensis, Lath. Ind. Orn. Sup. 65.—Steph. Shaw's Zool. 12. 122.
Totanus maritimus, Steph. Shaw's Zool. 12. 146.
Becasseau Violet, Temm. Man. d'Ornith. 2. 619.
Selringer Sandpiper, Lath. Syn. 5. 173. 15.—Arct. Zool. 2. 480.
Sea Sandpiper, Linn. Trans. 4. 22. Tab. 1.
Quebec Sandpiper, Lath. Syn. Sup. 2. 313.
Knot, Penn. Br. Zool. 2. 461. No. 193., but not the synonyms except that of Brunnick.—Bewick's Br. Birds, 2. 75.
Phayrelarn Sandpiper, Mont. in Trans. Linn. Soc. 4. 40. Tab. 2.
Purple Sandpiper, Wall. Syn. 2. 155.—Mont. Ornith. Dict. et Supp.—Flem. Br. Anim. 1. 110. sp. 157.—Steph. Shaw's Zool. 12. 146.

THE locality of this species being strictly confined to the rocky coasts of the ocean, and never found upon the flat and sandy shores (the usual resort of most of the maritime scolopaceous birds), has occasioned its falling less frequently under the notice of ornithologists, and its history has been consequently involved in much obscurity, and there is some difficulty in collating the synonyms under which it has been described by different authors. In the above list I have omitted the *Tringa striata* of LATHAM and GMELIN, quoted by MONTAGU and STEPHENS as a synonym of this species, as I consider it more appropriate, and rather belonging to *Totanus calidris* in its immature plumage, than to this bird. I have also rejected the *Black Sandpiper* of PENNANT (*Tringa Lincolniensis* of LATHAM), which bird MONTAGU thinks may be a variety of *T. maritima*; but, when described as having *long* and *slender* legs, I cannot reconcile it with the Purple Tringa, whose legs are *short*, the tarsus scarcely

equalling the length of the middle toe. In the fourth volume of the Linnean Transactions, a correct description of our bird is given by MONTAGU as a supposed nondescript species, under the title of the Phayrelarn Sandpiper (*Tringa nigricans*); but he afterwards corrected his mistake in the Ornithological Dictionary and the Supplement to it. It is also described in the above mentioned volume by Mr MARCHWICK, in his Catalogue of the Birds of Sussex, as the *Sea Sandpiper* (*Tringa maritima* of LATHAM). PENNANT, in his description of the Knot, appears to have mixed up this bird with the true Knot (*Tringa canutus*), in which confusion he was followed by BEWICK, whose excellent *figure* of the Knot, however, at once identifies it with the *Purple Sandpiper* of authors. STEPHENS has, in one instance, described it as a *Tringa*, under the title of *Tringa canadensis* (Quebec Sandpiper of LATHAM); and, in another place, as a *Totanus*, under the name of *Totanus maritimus*.

The Purple Tringa is a winter visitant to this country, generally arriving early in October, and departing for more northern latitudes in April. On the Northumbrian coast it is a common bird, and is met with in numerous flocks wherever the beach is bold and rocky. The Fern Islands, which are composed of trap (or basaltic) rocks, are a favourite resort, and it sometimes happens that a few stragglers are left at the period of the vernal migration, remaining through the summer, and breeding on the smaller islets. I have hitherto been unable to obtain the eggs, but have met with the young more than once in the month of June. When in flocks, these birds fly in a compact body, but seldom to any great distance; and, when disturbed, after taking a small circuit seaward, often return to the same exposed rock by the water's edge, from which they started. They feed on marine insects, such as onisci, small cancri, and on bivalve molluscæ, &c. which they seek for by turning aside the fronds of the ulvæ, and other maritime plants, that grow on the rocks. Their cry is feeble, and not unlike the word *weet, weet*, fre-

Periodical
visitant.

Food.

quently repeated. In spring, they sometimes associate with the Turnstones (*Streptilas interpres*), which affect the same localities. The flesh of this Tringa, from the nature of the food, is strong and somewhat rank, much inferior to that of the Knot, Purge, &c. The species is rather widely disseminated throughout Europe during its equatorial migration, being found upon the rocky shores of the Baltic and Mediterranean, as well as upon those of Holland and the British Islands. There is no difference between the American and our own; there it inhabits Hudson's Bay, and the other northern coasts of that continent.

FIG. 6. Represents this bird in the winter plumage.

General
description.
Winter
plumage.

Head and neck greyish-black, tinged with broccoli-brown. Orbits of the eyes, eye-streak, and chin, greyish-white. Breast deep ash-grey, inclining to hair-brown, many of the feathers having a darker centre, and being finely margined with white. Abdomen, flanks, and under tail-coverts white, spotted and streaked with deep ash and hair brown. Back and scapulars greyish-black, glossed with purple, and each feather margined with ash-grey. Wing-coverts greyish-black, margined and tipped with white, the tips of the greater ones forming a bar across the wings. Secondary quills, nearest to the tertials, almost wholly white, the rest having white tips only. Lower back and upper tail-coverts black, glossed with purple. Tail cuneiform, the middle feathers greyish-black; the outer ones ash-grey, margined with white. Bill, in adult specimens, one inch and a quarter long, very slightly deflected at the tip; the base reddish-orange, the tip dusky. Legs and toes ochreous-yellow, having the tibiæ feathered to within a short distance of the tarsal joint; and the lateral membrane (or web) of the toes not quite so large as in the Knot.

In the summer, the head becomes darker, and the feathers ^{Summer} margined with greyish-white. The back and scapulars ^{plumage.} also acquire a greater intensity, and the purple gloss shines with greater brilliancy; the ash-grey edging of the feathers also changes to white, and the spots upon the breast and flanks acquire a more distinct lanceolated form.

In the young, or nestling plumage, the head, back, and ^{Young.} scapulars are of a dull greyish-black, the feathers being margined with dirty yellowish-brown. The sides of the neck and breast are ash-grey, with darker streaks. Flanks and under tail-coverts with large longitudinal streaks of deep ash-grey. Base of the bill ochre-yellow.

DUNLIN, OR PURRE.

TRINGA VARIABILIS, Meyer.

PLATE XXVI. Figs. 1. 2. 3.

Tringa variabilis, Meyer, Tasschenb. Deut. 2. 397. — Temm. Man. d'Ornith. 2. 612.

Pelidna variabilis, Steph. Shaw's Zool. 12. 98. pl. 15. in summer plumage.

Tringa alpina, Flem. Br. Anim. 1. 108. sp. 153. — Sabine, Trans. Linn. Soc. 12. 534.

Becasseau Brunette ou variable, Temm. Man. 2. 612.

L'Alouette de Mer à Collier, Cuv. Reg. Anim. 1. 490.

Dunlin, Flem. Br. Anim. 1. 108. sp. 153. — Mont. Ornith. Dict. App to Sup.

Purree Dunlin, Steph. Shaw's Zool. 12. 98. pl. 15.

Tringa Cinclus, Linn. Syst. 1. 251. 18. — Gmel. Syst. 1. 680. — Lath. Ind. }
Orn. 2. 735. sp. 35. — Raii, Syn. 100. A. 13. }

Cinclus, Briss. Orn. 5. 211. pl. 19. f. 1.

L'Alouette de Mer, Buff. Ois. 7. 548.

Purree or Stint, Will. (Angl.) 305. — Penn. Br. Zool. 2. 472. — No. 206. — Id. }
Arct. Zool. 2. 475. — Lath. Syn. 5. 182. — Mont. Orn. Dict. 5. — Bewick's }
Br. Birds, 2. 119. — Wils. Amer. Orn. 7. 39. pl. 59. f. 3. — Wall. Syn. 2. }
pl. 150. }

Winter
plumage.

Tringa ruficollis, Pall. Reis. 3. 700. 31. — Lath. Orn. 736. sp. 36.

Red-necked Sandpiper, Lath. Syn. 5. 183. 31. This appears to be young when it has nearly perfected the winter plumage.

Summer
plumage,
and
changes in
acquiring
and losing
it.

- Tringa alpina*, *Linn. Syst.* 1. 249. 11.—*Geml. Syst.* 1. 676.—*Lath.* Ind. Orn. 2. 736. sp. 37.
Cinclus torquatus, *Brisson*. Orn. 5. 216. No. 11. t. 19. f. 2.
Gallinago anglicana, *Id.* 5. 309. 5.
Le Cincle, *Buff.* Ois. 7. 553.
La Brunette, *Id.* 7. 493.
 Red-backed Sandpiper, *Wils.* Amer. Orn. 7. 25. pl. 56. f. 2.
 Dunlin, *Will.* Orn. (Angl.) 305.—*Raii* Syn. 109. A. 11.—*Penn.* Br. Zool. 2. 471. No. 205.—*Arct.* Zool. 2. No. 391.—*Lath.* Syn. 5. 185. 33. *Id.* Sup. 249.—*Mont.* Ornith. Dict. 1. Sup. and App. to Sup.—*Bewick's* Br. Birds, 2. 117. &c.

PROVINCIAL—Sea-snipe, Ox-bird, Oxeye, Wagtail, Least Snipe.

PREVIOUS to the appearance of MONTAGU's Supplement to his Ornithological Dictionary (when the identity of the Dunlin and Purre of authors was first pointed out), this bird, in the writings and compilations of earlier naturalists, had always been considered, under its different states of plumage, as forming at least two distinct species, as may be collected from the list of synonyms given above. These views of our zealous countryman, who was one of the first to direct the attention of inquirers to the remarkable changes of plumage that so many species are now ascertained to undergo, were soon afterwards corroborated by the observations of that discriminating ornithologist Mons. TEMMINCK, in his "Manuel," where he has traced and attached the various synonyms, as they appeared applicable to the different states of this bird, either at the period when the change has been completely effected (as exhibited in its winter or summer plumage), or in the intermediate stages of moulting, in its progress from one to the other. After the authority of two such names, it may appear unnecessary to bring forward any additional proof of this identity; but as the situation in which I happen to reside is peculiarly favourable for making observations on the tribes of fowl that resort to our coasts, I may be allowed to remark, that after having examined specimens at all seasons, and indeed during each month of the year (when the progressive changes from one state to another may be traced step by step), I have been able to verify, most satisfactorily to my own mind, the cor-

rectness of that opinion by which these supposed different species have been pronounced identical, under peculiar modifications of plumage. The *Dunlin*, or (as it is called in its winter dress) the *Purre*, is a very well known and numerous species, frequenting in immense flocks the sandy bays and oozy shores of the whole line of our coast. In the southern parts of Britain it is a winter visitant, and consequently oftenest observed in its plain, or ash-grey plumage; and it is only in spring, immediately previous to its departure for more northern latitudes, or early in autumn, on its first return, that a few are seen clothed in the garb proper to the *Dunlin* of earlier authors. In Scotland and its islands, this bird may be considered *indigenous*, as great numbers are known to breed not only upon the sea coast, but in the marshes of the interior. A few also remain in Northumberland, which may be called the southern limit of the permanent residence of the species. It is not to be supposed, however, that the multitudes that people our northern shores are the offspring of such only as breed in this latitude; they are principally composed of migrants from countries farther northward, to which the great body retires during summer, as offering peculiar facilities for the reproduction of the species, but which, upon the approach of frost, and when food begins to fail, send forth their now increased flocks southward, in search of warmer winter quarters, where a more plentiful supply of nourishment may await them.—Like many of its congeners, the flight of this species is attended with such regular evolutions, as no one who has enjoyed the opportunity of visiting the parts of our coast frequented by *Purres*, and other scolopaceous birds, can have failed to remark. I allude to the glancing and simultaneous exposure of the upper or under surface of the body by every individual of a flock (be it ever so numerous), as it sweeps along the surface of the ocean, or across the shining sands. In Scotland, the *Purre* breeds upon the shingle at the mouths of rivers, or on the salt marshes near the coast, as well as in

Periodical
visitant.

Nest, &c. the bogs of the upland country.—The nest, merely a depression in the ground, lined with a few straws or dried stems of grass, and, in appearance, similar to that of the Snipe or Ring Dotterel. The eggs, as in the rest of the family, are four in number, of an oil or greenish-grey colour, marked all over with variously sized spots of hair-brown, and are rather less than those of the Common Sandpiper (*Totanus hypoleucos*).

Food. This species feeds on worms, insects, molluscæ, and the smaller crustaceæ, which it usually obtains by probing the sand in following the ebb of the tides. It runs with great celerity, and has a sprightly carriage and delicate form. When in action, it is in the constant habit of moving the tail up and down. Its cry, on wing, is a weak scream, but when at rest on the ground, or feeding, a softer and more pleasing note is used. Its flesh, during the autumn, is tender and well flavoured, but in winter it becomes darker in colour and fishy, and is always indeed inferior to that of the Knot.

General
description.
Winter
plumage.

Fig. 1. Represents this bird in the perfect winter plumage.

Crown of the head, hind part of the neck, back and scapulars ash-grey, with a tinge of hair-brown; the shaft of each feather being darker. Between the bill and eyes is an indistinct line of brown. Eye-streak and cheeks white, streaked with pale hair-brown. Chin and throat white. Lower part of neck and breast grey, the shafts of the feathers being hair-brown. Belly, abdomen, vent, and under tail-coverts pure white. Wing-coverts hair-brown, margined with pale ash-grey, the larger ones having white tips. Rump and upper-tail-coverts deep hair-brown, margined paler. Tail approaching to the doubly-forked shape, the two middle feathers being the longest, and of a deep hair-brown colour, the rest, on each side, grey, with white shafts. Bill black, very slightly inclined at the tip. Legs and toes blackish-grey.

Fig. 2. The same species in the summer or nuptial plumage. Summer plumage.

Crown of the head black, the feathers being margined with reddish-brown. Chin white. Cheeks, fore part of the neck and breast, black, with the feathers deeply margined with white, giving these parts a beautifully spotted appearance. Belly and abdomen black. Flanks and side-coverts of the tail white, streaked with black. Hind part of the neck, mantle, and scapulars black, each feather being deeply margined with clear reddish-brown. Lower part of back, and upper tail-coverts brownish-black. Wing-coverts as in the winter plumage.—This description taken from a specimen killed towards the end of May.

Fig. 3. Is the young of the year, in a state of change from the nestling to the winter plumage. Young bird.

Head blackish-brown, the feathers being edged with yellowish-brown. Upper parts exhibiting a mixture of the pale grey feathers that mark the winter plumage, with the darker (or nestling) feathers. Cheeks and sides of the neck pale brown mixed with grey. Breast grey, spotted with black. Belly white, with large black spots. Vent and under tail-coverts white.

CURLEW TRINGA.

TRINGA SUBARQUATA, Temm.

PLATE XXVI. Figs. 4. 5.

Tringa subarquata, Temm. Man. d'Ornith. 2. 609.—*Flem. Br. Anim.* 1. 107. sp. 152.

Becasseau Cocorli, Temm. ut supra.

Pelidna subarquata, Steph. Shaw's Zool. 12. 96.

L'Alouette de Mer ordinaire, Cuv. Reg. Anim. 1. 490.

Red Dunlin, Steph. Shaw's Zool. 12. 96.

Pigmy Sandpiper, Bewick's Br. Birds. 2. Sup. p. and t. 11.

Pigmy Curlew, Mont. Orn. Dict. Sup. the young of the year.

Winter plumage.	{	Numenius Africanus, <i>Lath. Ind. Orn.</i> 2. 712. sp. 10.
		Scolopax Africana, <i>Gmel. Syst.</i> 1. 655.
		L'Alouette de Mer, <i>Buff. Ois. Enl.</i> 851.
		Cape Curlew, <i>Lath. Syn.</i> 5. 126. 9.
Summer plumage.	{	Scolopax subarquata, <i>Gmel. Syst.</i> 1. 658. sp. 25.
		Numenius subarquata, <i>Bechst. Naturg. Deut.</i> 4. 135. No. 3. t. 6.
		Rauthbauchiger Brachvogel, <i>Meyer, Tasschenb. Deut.</i> 2. 356.
		Red Sandpiper, <i>Penn. Arct. Zool.</i> 2. 476. No. 392.— <i>Lath. Syn.</i> 5. 186. 34. ?
		Rockmillis, <i>Will. Orn. (Angl.)</i> p. 304. ?

THIS species, in its winter dress, may easily be mistaken by a cursory observer for *Tringa variabilis*, to which it bears a close resemblance in colour and dimensions, particularly as regards the male, which is always much less than the female bird, and the bill of which is frequently found very little longer than in adult specimens of the Dunlin. The greater curvature, however, of this member, the comparative length of the tarsi, and larger naked portion of the tibiæ, as well as the colour of the upper tail-coverts, are always sufficiently characteristic to point out the difference between the two species whenever a proper comparative examination can take place. In its summer plumage, such a mistake can scarcely occur, as the difference then must be obvious, even to those unacquainted with the subject. In collating the synonyms of this species, I have omitted the *Numenius pygmaeus* of LATHAM, as I concur with MONS. TEMMINCK and MR VIGORS in considering it to refer to the *Tringa platyryncha* of TEMM., rather than to the present species. The Cape Curlew (*Numenius Africanus*), however, appears to be strictly referable to it; and specimens that I have received from Africa are in every respect similar to those killed in Europe.—This bird is a rare visitant in Britain, and only seen during its vernal or autumnal migration. Upon the continental shores of Europe, and on the margins of the larger lakes, it is not uncommon; and, according to TEMMINCK, it occasionally breeds in Holland by the sides of the extensive inland seas that occupy so large a portion of that country.—Its four eggs are stated to be yellowish (*jaund-tres*), probably answering to SYME's oil-green, spotted with

Rare visitant.

Eggs.

brown, the prevailing colour, indeed, of the eggs of most of the Scolopaciæ. Its geographical distribution is very extensive, as the species appears to be the same in all the four quarters of the globe. In addition to the specimens hitherto recorded, a male and female were killed a short time ago near Hartlepool, in the county of Durham; and two, in the collection of Sir WILLIAM JARDINE, were shot upon the coast in Dumfriesshire. It runs with great quickness, and feeds upon insects, worms, &c. for which it probes the sand by the water's edge. Food.

Fig. 4. Represents this bird when beginning to lose the summer plumage, taken from a specimen killed on the Norfolk coast, in company with several others which had nearly acquired the winter garb, and presented to me by H. GIRDLESTONE, Esq. of Yarmouth.

General
description.
Summer
plumage.

Bill black and deflected near the tip, its length one inch and three-eighths. Crown of the head blackish-brown, margined with pale reddish-brown. Hind part of the neck reddish-brown, streaked with hair-brown. Back and scapulars black, deeply bordered with reddish-brown, the tips of the feathers fading into yellowish-grey, and much worn by the action of the weather, &c. Wing-coverts pale hair-brown, margined with greyish-white. Quills hair-brown, with white shafts. Upper tail-coverts white, barred with black. Forehead, eye-streak, chin, and throat white, mixed with pale orange-brown. Under parts orange-brown, with a few white feathers intermixed; shewing the commencement of the winter plumage. Under tail-coverts white, with arrow-shaped black spots. Legs black, much longer than those of the *Dunlin*, and naked for half an inch above the tarsal joint. Wings, when closed, reaching a little beyond the tail.

Fig. 5. Is a young bird of the year, acquiring the winter plumage.

Young. Eye-streak, face, and fore part of the neck, white. Crown of the head blackish-brown, bordered with greyish-white. Hind part of neck greyish-white, with streaks of a deeper tint; upper parts hair-brown, with a glossy reflection, the feathers being margined with white and reddish-white. Upon the back are several ash-grey feathers, indicative of the approaching change. Upper tail-coverts white. Lower part of neck and breast yellowish-grey. Belly, abdomen, and under tail-coverts white. Tail grey margined with white.

Winter
plumage.

In the perfect winter dress, the whole of the upper parts, with the exception of the tail-coverts, become of an uniform pale hair-brown, with a slight olivaceous gloss, the shafts of the feathers remaining dark. Lower part of the neck and breast grey, streaked with hair-brown.

GENUS PHALAROPUS, *BRIS.* PHALAROPE.

GENERIC CHARACTERS.

Bill rather longer than the head, somewhat three-cornered at the base, and depressed throughout its whole length; both mandibles laterally grooved, the tip of the upper mandible dilated, its extremity slightly deflected, and covering that of the under one, which is brought to a fine point; culmen rounded. Tongue short, with a blunt tip.

Nostrils basal, lateral, oblong, rather prominent, and surrounded by a membrane. Legs of mean length, slender, slightly compressed, naked above the tarsal joint. Feet four-toed, three before and one behind; the front toes joined at the base by a membrane, and from thence to the claws, bordered with large scalloped membranes. Hind toe small, with the tip of its claw scarcely reaching to the ground.

In plumage, having the under parts of the body clothed with thickly set feathers, and very closely adpressed.

THE genus *Phalaropus* of BRISSON contained not only the species to which it is now restricted, but also the Cootfoots, or birds belonging to the genus *Lobipes* of CUVIER, represented by the *Phalaropus Hyperboreus* of authors, and which that eminent naturalist judged it expedient to separate from the present group, in consequence of the distinct character it displayed in the form of the bill. By LATHAM, TEMMINCK, and other systematists, these birds were placed in an order entitled *Pinnatipedes*, an arrangement completely artificial, and which embraced groups widely different, and so far removed from each other in point of affinity, as to possess, in fact, nothing in common except feet imperfectly webbed or lobated. According to the natural arrangement, or that grounded upon affinity, they are now more appropriately classed with the *Scolopacidae*, and the groups which stand at the extremity of that family, or which, departing from the central (or more typical) genera, in regard to their habits (that are more aquatic), and in the lobated form of their feet (that are not unlike those of the Coots), lead the way and serve as a link to connect it with the succeeding family of the *Rallidae*. In the Phalaropes, the formation of the bill is nearly the same as that of the Knot, but it is more depressed throughout its length, and the tip comes to a sharper and more determinate point. The general contour of the body is also similar to that of the Tringas. The extensive development of the membrane connecting and bordering the margins of the toes, as well as the thick and closely set plumage of the under parts of the body, indicate more aquatic habits, and a greater power of being supported on the water; and we accordingly find, that the Phalaropes are more frequently seen upon the surface of the ocean, where they float at ease even amidst the roughest waves, than on the land, where their motions are more confined, and display less of the activity that distinguishes the Tringas and other birds that frequent the shores. Their moult is double, and the changes they undergo are not unlike those of the Tringas.

They are natives of the Arctic regions, and extend to very high northern latitudes. Their food consists of marine insects, mollusca, and worms, which abound in the waters they frequent, and are seized by them when swimming, as they float near the surface.

GREY PHALAROPE.

PHALAROPUS LOBATUS, Flem.

PLATE XXVIII.

Phalaropus platyrhynchus, *Temm.* Man. d'Ornith. 2. 712.—*Sabine*, Linn. Trans. 12. 536.

Phalaropus griseus, *Steph.* Shaw's Zool. 12. 163. pl. 20.

Phalaropus lobatus, *Lath.* Ind. Ornith. 2. 776. 2.

- | | | | |
|---------------------|---|---|--|
| Winter
plumage. | { | <i>Tringa lobata</i> , <i>Linn.</i> 1. 249. 8.— <i>Gmel.</i> Syst. 1. 674. | |
| | | <i>Phalaropus</i> , <i>Briss.</i> 6. 12. 1. | |
| | | Le Phalarope à festons dentelés, <i>Buff.</i> Ois. 8. 226. | |
| | | Le Phalarope gris, <i>Cuv.</i> Reg. Anim. 1. 492. | |
| | | <i>Grey Coot-footed Tringa</i> , <i>Edward</i> , t. 308. | |
| | | { | <i>Grey Phalarope</i> , <i>Br.</i> Zool. 2. No. 218. t. 76.— <i>Arct.</i> Zool. 2. No. 412.— <i>Mont.</i> Ornith. Dict. and Sup. Appendix. |
| | | | <i>Grey Phalarope</i> , <i>Lath.</i> Syn. 272.—the young commencing the autumnal moult |
| Summer
plumage. | { | <i>Tringa fulvicaria</i> , <i>Linn.</i> Syst. 1. 249. 10.— <i>Brun.</i> Orn. Boreal. 51. No. 172. | |
| | | <i>Phalaropus rufescens</i> , <i>Briss.</i> Ornith. 6. 20. 4. | |
| | | Le Phalarope rouge, <i>Buff.</i> Ois. 8. 225.— <i>Cuv.</i> Reg. Anim. 1. 492. | |
| | | Red Coot-footed <i>Tringa</i> , <i>Edward</i> , t. 142. | |
| | | Red Phalarope, female, <i>Lath.</i> Syn. 5. 271. | |
| | | { | <i>Rothbauchiger Wassertreter</i> , <i>Meyer</i> , Tasschenb. Deut. 2. 419. sp. 2. |
| Adult in
change. | { | <i>Phalaropus glacialis</i> , <i>Lath.</i> Ind. Ornith. 2. 776. sp. 3. | |
| | | <i>Tringa glacialis</i> , <i>Gmel.</i> Syst. 1. 675. | |
| | | (Plain Phalarope, <i>Arct.</i> Zool. 2. 415.— <i>Lath.</i> Syn. 5. 173. 3. | |

Rare
visitant. Our acquaintance with this species is only as a rare visitant, a few stragglers being accidentally driven upon our coasts, during their autumnal migrations. These birds are inhabitants of the north-eastern parts of Europe, and Northern Asia, where they are numerous upon the large lakes and rivers of Siberia: they also abound in North America; but their range, even during the equatorial migrations, does not

seem to extend far beyond the limits of the arctic circle. In summer, during the breeding season, they retire to very high latitudes, and are amongst the few kinds met with by navigators in those icy and desolate regions. In their habits they are much more aquatic than the *Tringas*, &c. passing the greater part of their lives on the water, and swimming with great buoyancy and ease; upon this element also they obtain their food, consisting of marine insects and worms Food. that live in the water, and move near the surface; for it does not appear that these birds are enabled to dive, never having been observed to exercise that faculty, either when feeding, or in their endeavours to escape from any threatened danger. In addition to their lobated feet, they possess other peculiarities indicative of aquatic habits; for we find the tarsus slightly flattened (so as to offer less resistance to the water, when drawn forwards to make the stroke in swimming), and the plumage of the lower parts of the body rendered, by its thick and close-set character, more impervious to the water, similar to that of the *Laridæ* and *Anatidæ*. They fly with great strength and swiftness, and, when on wing, are not easily distinguished from the *Tringas*. The nidification and colour of the eggs of this species have not yet been described.

PLATE 28. represents the Phalarope, as killed in autumn, when it has nearly acquired the winter or grey plumage; and again in that which it assumes as spring advances, and called the summer, or nuptial dress.

In the former state, the forehead, crown of the head, throat, fore part and sides of the neck, breast, and the whole of the under parts are white. Hind part of the head, ear-coverts, and streak down the nape of the neck, greyish-black. Upper parts of the body fine bluish-grey, intermixed with a few feathers of a greyish-black, margined with pale yellowish-brown and white; these being the remains of the summer plumage. Wing

General
descrip-
tion.
Winter
plumage.

coverts greyish-black, edged with white; the secondary coverts having their tips white, and forming a bar across the wings. Tertiaries black, with the outer web margined with white. Quills greyish-black, with white shafts. Tail grey, finely margined with white. Bill blackish-brown. Legs and toes greenish-grey, with the tarsus somewhat flattened. In this state of plumage it appears to be the *Phalaropus glacialis* of LATHAM, (*Plain Phalarope* of PENNANT's Arctic Zoology). The specimen, as above described, was killed at the Fern Islands in the autumn of 1820.

Summer
plumage.

In summer, the sides and fore part of the neck, the breast and under parts, are of an uniform orange-brown. The streak above the eye sienna-yellow. Crown of the head, nape of the neck, back, and scapulars of a very deep olive-brown; each feather being margined with pale reddish-brown and yellowish-brown. Wing coverts as in the winter plumage.

GENUS LOBIPES. LOBEFOOT.

GENERIC CHARACTERS.

Bill longer than the head, strait, smooth, slightly depressed at the base; the point subulate, and rather inclined; mandibles grooved. Tongue slender and pointed. Nostrils basal, lateral, linear, placed in the commencement of the mandibular furrow, and surrounded by a prominent membranous rim.

Wings long, and sharp-pointed; with the first quill longest, and the rest decreasing by regular gradation.

In the legs, the lower part of the tibiæ is naked; the tarsus slender, and much compressed; feet four-toed, three before and one behind. The middle toe connected with the inner one as far as the first, and with the outer ones as far

as the second joint; the remaining part of the toes having lobated membranes, with finely pectinated edges; nails, scarcely extending beyond the ends of the toes, small, falcated, and sharp-pointed.

Plumage similar in texture to the genus *Phalaropus*.

The different characters exhibited in the form of the bill between the *Phalaropus hyperboreus* of authors, and the *Phalaropus lobatus*, induced CUVIER, in his "Regne Animal," to separate the *former* from the latter, and to make it the type of a genus, which he entitled *Lobipes*. In this arrangement he has been followed by most of the ornithologists of the present day, and the propriety of it is further evinced by the discovery of several new species, possessing all the distinct characters of the type. In the Grey Phalarope the form of the bill is described as approaching to that of the Knot; in the Lobefoots it is similar to that of the Sandpipers, being slender, very little depressed, and acuminate at the point. In the Lobefoots, the tongue is long, slender, and sharp-pointed; whereas in the Phalaropes, it is short, and blunt at the tip: the legs also of the former are considerably longer in proportion to the size of the body. Their habits, as might be expected from the form of the feet, and, from their general resemblance, are very similar to those of the Phalaropes, and they swim with equal strength and ease. They are, the inhabitants of sea coasts, as well as of inland fresh-water lakes and rivers, and are widely distributed, being found in countries differing, to extremes, in temperature. The *Lobipes hyperborea*, which sometimes visits our shores, inhabits the arctic regions of Europe and North America; the *Lobipes incana* is a native of South America; and another has been found in Africa. Like the Phalaropes, and other scolopaceous birds, their moult is double, and the plumage of summer is more varied, and of brighter tints, than their winter clothing. The feathers of the under parts of the body are, in texture, like those of the

Phalaropes, and equally well adapted to resist the effects of the element in which they chiefly move. They breed upon the margins of lakes, and, like the other birds of this family, lay four eggs. Aquatic insects, molluscæ, &c. compose their food, which they generally obtain on or very near the surface of the water.

RED LOBEFOOT.

LOBIPES HYPERBOREA, Cuvier.

PLATE XXVIII. FIGS. 1. 2.

Lobipes hyperborea, *Steph.* Shaw's Zool. 12. 169. pl. 21.—*Flem.* Br. Anim. 1. 100. sp. 134.

Le Lobipedé à hauss col, *Cuv.* Reg. Anim. 1. 495.

Phalaropus hyperboreus, *Lath.* Ind. Ornith. 2. 776. 1.—*Temm.* Man. d'Ornith. 2. 709.—*Sabine*, Linn. Trans. 12. 535.—*Sabine*, in *Frank.* Jour. Append. 690.

Tringa hyperborea, *Linn.* Syst. 1. 249. 9.—*Gmel.* Syst. 1. 675. sp. 9.

Phalaropus cinereus, *Briss.* Ornith. 6. 15. 2.

Phalarope cendré ou *Phalarope de Sibirie*, *Buff.* Ois. 8. 224.

Rothhsaliger Wassertreter, *Bechst.* Naturg. Deut. 5. 373.—*Meyer*, *Tass.* chenb. Deut. 2. 417.

Cock Coot-footed Tringa, *Edward*, Glean. pl. 148.

Red Phalarope, *Br.* Zool. 2. 219. t. 76.—*Lath.* Syn. 5. 270. 1.—*Mont.* Ornith. Dict and Sup. Append.—*Bewick's* Br. Birds, 2. 109.—*Will.* Amer. Ornith. 9. 75.

Phalaropus Williamsti, *Simmonds*, in Linn. Trans. 8. 264.

Phalaropus fuscus, *Lath.* Ind. Ornith. 2. 776. sp. 4.—*Briss.* Ornith. 6. 18. 3.

Young in
winter plu-
mage.

Tringa fusca, *Gmel.* Syst. 1. 675.

Gemeine Wassertreter, *Bechst.* Naturg. Deut. 2. 217.

Coot-footed Tringa, *Edward*, pl. 46.

Brown Phalarope, *Penn.* Arct. Zool. 2. 414.—*Lath.* Syn. 5. 274. 4.

PROVINCIAL.—Water Snipe.

In the Orkneys, and the other northern Scottish islands, the Red Lobefoot is a common species, inhabiting, during the summer, the numerous small fresh-water lakes, upon the margins of which it breeds and rears its young. In these places it goes under the name of the *Water Snipe*, from its aquatic habits, for it is more frequently seen swimming or floating upon the surface of the water, than running or reposing on the

shore; and in the former element also its food is obtained, consisting of water insects, vermes, and molluscous animals*. Food. In England, we only know this bird as a rare visitant during the period of its migration, and but few instances of its capture are on record. It is, however, plentiful in the north-eastern parts of Europe, and in Northern Asia, as well as in North America, where its polar migration, as in the two first mentioned quarters of the globe, extends to a very high latitude. Its nest is made in the grass, and other herbage Nest, &c. not far removed from the edge of the water, and its four eggs are of a deep oil-green colour, thickly spotted with black. On the approach of autumn, and after the young have attained sufficient strength, these birds leave their breeding stations in the Orkneys, and the higher northern regions, and migrate, for the winter season, to the shores of the Baltic, and other eastern parts of Europe.

PLATE 28*. Fig. 1. represents it in the summer plumage.

Crown of the head, nape and hinder part of the neck, sides of the breast, and streak behind the eyes, ash-grey. Sides of the neck marked with an irregular patch of orange-brown. Throat, middle of the breast, and all the under parts white; except the flanks, which are dashed with ash-grey. Back and scapulars black; the feathers being deeply margined with ash-grey and reddish-brown. Wing coverts blackish-grey; the greater ones terminated with white, and forming a bar across the wings. The two middle tail-feathers black; the rest deep ash-grey, margined with white. Bill black; legs and toes greenish-grey; the lobes upon the anterior joint of the toes extending a little beyond the tip of the

General description.

Summer plumage.

* According to Mr BULLOCK, who had frequent opportunities of observing this bird, during an excursion to the Scottish Isles, it swims with the greatest ease, looking on the water like the beautiful miniature of a duck, and carrying its head close to the back, similar to the Teal. He also found it very tame, and so little alarmed by the report of a fowling-piece, as to permit him to fire repeatedly, without its moving from the spot.

claw. Iris brown.—The above is the male bird. The plumage of the female is similar to that of the male, with the exception of the tints not being so pure, and the red patch on the sides of the neck not so intense in hue*.

Fig. 2. is the winter plumage; from a bird killed near Aln-mouth in Northumberland.

Winter
plumage.

Forehead white, tinged with cinereous. Crown of the head, streak behind the eyes, and the list down to the back of the neck, blackish-grey. Chin, throat, middle of the belly, abdomen, and under tail-coverts, white, with a slight pinkish tinge. Sides of the neck and breast grey, with a faint blush of purplish-red. Back, scapulars, and wing-coverts black; the feathers of the former being deeply edged with yellowish-brown; and the greater coverts having their tips white, forming a distinct bar across the wings. Middle feathers of the tail black, margined with yellowish-brown; the rest ash-grey, margined with white. Legs and toes greenish-grey. In the above state it approaches very closely to the description of the young of this species, as given by TEMMINCK; and also to the *Phalaropus fuscus* of LATHAM. It would, therefore, seem, that the plumage of the young of the year, and that of the adults in winter, bear a strong resemblance.

* The description of the female, as given in MONT. Ornith. Dict. from Dr LATHAM's authority, applies to the *Phalarope*, and not to the species of Lobe-foot.

FAMILY IV.—RALLIDÆ.

FROM the typical family of the *Scolopacidæ* we now enter upon that of the *Rallidæ*, which forms the fourth natural division of the Order, standing as an aberrant group. The various members composing it, and which answer to the *Macrodactyles* of CUVIER, are distinguished from the birds of the preceding family, by having the bill considerably stronger, the tarsi shorter, and the hind toe of greater length. They are also separated from all the other families of the order, and more united together, by the particular shape of the body, which, in the typical or representative species, is *much* compressed on the sides, arising from the structure of the breast-bone, it being found, on dissection, remarkably narrow. In their habits they are more decidedly aquatic than the other families, and the greater part of them inhabit the interior lakes and marshes of their respective countries; many of them swim habitually and with facility, in this respect shewing their connexion with the true *Natatores*; to which order, by means of the *Coot*, they directly lead the way. The feet of most of the species are divided and without webs, but the toes and claws of many of them are long, and cover a large disk when expanded; which formation (as well as the shape of the body), not only aids them in swimming, but is of great assistance to them in traversing the surface of the water, when covered with aquatic plants and grasses. In *Gallinula*, whose habits are decidedly aquatic, the toes are bordered along their sides with a narrow web, being an extension, as it were, of the membranous sole of the foot; and the same is observable, perhaps to a greater degree, in the nearly allied genus *Porphyrio*. This, in the genus *Fulica* (placed still nearer to the farther extremity of the family, and serving as a link between it and the *Charadriadæ*, and the Order *Natatores*), become still more ex-

tended, and assumes the form of large scalloped lobes; a structure that induced former systematists, in their artificial arrangement, to establish a separate order for its reception, and that of some other birds, to appearance not intimately connected, as the *Phalaropus* and *Grebes*; the first of which belong to the *Scolopacidae*, the other to the Order *Natatores*, and included in the Family of the *Colymbidae*. In Britain, the members belonging to this family are few; consequently many links of the chain that connect the various groups with each other are wanting. The plumage of most of the *Rallidae* is soft, and loose in texture; their wings, with few exceptions, are short and rounded, generally armed with one or more spurs near the first flexure of the wing (more or less developed in the different genera), and they fly in a heavy and awkward manner; many of them, indeed, shewing a great unwillingness to take flight. They feed on aquatic herbs, grasses, and their seeds, as well as worms, insects, and molluscæ. They generally make a large nest, and lay several eggs; in which character they resemble not only the gallinaceous birds of the rasorial order, but also the *Anatidae* of the Order *Natatores*.

GENUS RALLUS, *Auct.* RAIL.

GENERIC CHARACTERS.

Bill longer than the head, rather slender, compressed at the base, with the tip cylindrical and slightly incurved; upper mandible sulcated for two-thirds of its length, the under one strait, and the angle very small.

Nostrils pierced in a membrane, and situated in the furrow of the bill at a short distance from the base; linear and pervious.

Tongue narrow, compressed, having a fibrous tip.

Wings short, with the first quill feather much shorter than

the second and third, which are the longest in the wing. The bastard wing armed with a spine or spur.

Forehead plumed ; the shaft of each feather ending in a sharp horny point.

Tail short, consisting of twelve feathers.

Legs of mean length, with the tibiæ naked for a short space above the tarsal joint. Feet four-toed, three before and one behind ; toes long, slender, and cleft to their base, the middle one generally as long as the tarsus. Hind toe as long as the first joint of the middle one, and touching the ground. Nails falcate, compressed, and sharp-pointed. Front of the tarsus and upper part of the toes scutellated.

The members of the genus *Rallus*, which may be considered the typical (or representative) form in the family, have the body remarkably compressed, arising from the structure of the breast-bone, which is very narrow. Their wings are short and rounded ; their flight awkward and irregular, and only by sudden surprise, or close pursuit, can they be compelled to take wing. This partial deficiency, however, is amply compensated by the swiftness with which they can pierce through the thickest growth of reeds, or other aquatic herbage of the situations they chiefly frequent ; and their progress through which is doubtless much facilitated by the laterally-compressed form of body they possess, being thus enabled to squeeze through the narrowest interval. They also swim with ease, and though not so often seen in the exercise of this faculty as the nearly allied genus *Gallinula*, they shew no unwillingness to pass by this mode the brooks, or many pools of water, in the marshes they inhabit. They live on worms, aquatic insects, and shelly molluscæ, with a proportion also of vegetables and seeds. They closely approach, in many respects, to the genera *Crex* and *Gallinula*, the passage to which is effected by certain species that stand at the extremity of the group, and which have the bill rather shortened and thicker than that of the Common Rail.

COMMON RAIL.

RALLUS AQUATICUS, Linn.

PLATE XXIX.

- Rallus aquaticus*, Linn. Syst. 1. 262. sp. 2.—*Geml. Syst.* 1. 712.—*Raili*, Syn. 113. A. 2.—*Ibid.* 190. 12.—*Will.* 234. t. 16.—*Lath.* Ind. Orn. 2. 755. 1. but not the var. B.—*Steph.* Shaw's Zool. 12. 192. pl. 25.—*Flem.* Br. Anim. 1. 98. sp. 128.
- Gallina serica* Gesneri, *Raili* Syn. 114. 4.
- La Rale d'Eau, *Buff.* Ois. 3. 154. t. 13.—*Temm.* Man. d'Ornith. 2. 683.
- La Rale d'Eau d'Europe, *Cuv.* Reg. Anim. 1. 500.
- Wasser Ralle, *Bechst.* Naturg. Deut. 4. 464.—*Meyer*, Tasschenb. Deut. 2. 406.
- Velvet Runner, *Will.* (Angl.) 315.
- Water Rail, Bilcock, or Brook Ouzel,—*Will.* (Angl.) 314.—*Penn.* Br. Zool. 2. 484. No. 214. t. 75.—*Albin's* Br. Birds, 1. pl. 77.—*Lath.* Syn. 5. 227. 1.—*Lewin's* Br. Birds, 5. t. 189.—*Pull.* Cat. Dorset. p. 15.—*Mont.* Orn. Dict. 1. and Sup.—*Bewick's* Br. Birds, 2. t. p. 13.—*Shaw's* Zool. 12. 192. pl. 25.—*Flem.* Br. Anim. 1. 98. sp. 128.
- Bilcock, *Rennie's* Mont. Ornith. Dict. p. 33.

PROVINCIAL.—Runner, Skiddy-cock, Oar-cock, Grey-skit, Brook-runner.

THE shy and solitary habits of this bird, as well as the peculiar localities it inhabits, and the difficulty with which it is forced on wing, prevent it being so frequently seen as, from its general dispersion throughout the kingdom, might otherwise be expected. It is permanently resident in this country, and to be found at all seasons of the year. MONTAGU, however, (in the Supplement, to his Ornithological Dictionary,) suggests that a part of those annually produced may probably migrate, and, in favour of this opinion, instances the great accumulation of Rails in the marshes of Devonshire in the autumn, being the period when, in this case, they would naturally leave England for a warmer climate. This supposition I have not been able to verify, and further observations are therefore necessary to convert it into a fact. In the northern continental parts of Europe, this is a regularly migrative species, but in those countries the winter being always much more severe than it is in England, the

peculiar haunts of this and other members of the *Rallidæ* are in consequence more completely frozen up, and the supplies of food more effectually cut off than they ever are in our island. The haunts of the Rail are marshes, pools, and water-courses, particularly such as are covered or bordered with dense aquatic herbage and reeds, in which it finds shelter and refuge, being enabled, by the narrow form of its head and body, to pass through the closest beds of these plants with great rapidity. To the above property is owing its principal security, as, when forced upon wing, its flight is awkward and slow, with the legs hanging down, and offering an easy aim to the sportsman. Few dogs are able to force it into view, unless when taken by surprise, or before it has time to gain its retreat, which I have not unfrequently found to be the forsaken hole of a water-rat, or amidst the entangled roots of a stunted willow or alder-bush. When moving about undisturbed, or in search of food, it often flirts up its tail, similar to the Water-Hen, exposing the cream-white under-coverts of that part. It occasionally swims, or (as WILLOUGHBY expressively terms it) walks in the water, traversing the pools, or crossing the brooks, upon whose margins it resides. When disturbed, it will occasionally run along the surface of the water, supported by the floating herbage, for which purpose its feet are well adapted, covering, upon expansion, a large disk. It can also dive with readiness, to which method of escape it sometimes resorts, as I have experienced in several instances.—Worms, slugs, and insects, Food. are its food, to which may be added the leaves and seeds of particular aquatic plants. One of these birds which I kept for some time, was fed entirely with earth-worms, upon which it continued to thrive, till an accident put an end to its life. It refused bread, and the larger kinds of grain.—In consequence of the retired spots chosen for nidification (being always amidst the thickest herbage of its haunts), the nest Nest, &c. is rarely found. MONTAGU mentions having discovered one in a willow-bed, which was composed of sedge and coarse

grass, and contained six eggs of an immaculate white; like those of its congeners, rounded at both ends. TEMMINCK and BECHSTEIN, however, make the number of eggs to be ten or twelve, and their colour a yellowish-white, spotted with reddish-brown, a description which also answers to those of the *Crex Porzana*. This discordance, I regret, it is not in my power to settle, never having been fortunate enough to meet with the nest of the Rail. The geographical distribution of this species appears to be confined to Europe, and perhaps the northern parts of Asia; permanent in the warm districts, but migratory as it approaches the north. It is very abundant throughout Holland, France, and Germany.

PLATE 29. Represents this bird of the natural size.

General
description.

Bill reddish-orange at the base, passing into blackish-brown towards the tip. Irides red. Chin pearl-grey. Cheeks, sides of the neck, breast, and belly, bluish-grey. Abdomen and flanks greyish-black, barred with white and cream-yellow. Under tail-coverts cream-yellow. Crown of the head, nape and back part of the neck, and all the upper parts of the body, yellowish-brown, with the centers of the feathers velvet-black. A few of the lesser wing-coverts barred with black and white. Legs and toes yellowish-brown, tinged with flesh-red. Both sexes are of similar plumage.

GENUS CREX, BECHST. CRAKE.

GENERIC CHARACTERS.

Bill shorter than the head, thick at the base, subcultrated, compressed; the culmen gradually deflecting from the forehead to the point of the bill; lateral furrow of the upper mandible broad, and occupying more than half its length; angle of the under mandible bending upwards; both mandibles of an equal length.

Nostrils concave, lateral, linear-ovoid, pierced in a membrane occupying the mandibular furrow in the middle of the bill.

Wings armed with a spine, and having the second and third quill feathers the longest.

Plumage soft, thick, and open in texture.

Legs strong, of mean length, with the lower part of the tibiæ naked. Feet four-toed, three before and one behind. Toes long, slender, and cleft to their base, without any lateral membrane, hind toe resting almost wholly on the ground. Claws arcuate, compressed, and sharp-pointed.

The Crakes hold an intermediate station between the Rails on the one hand, and the Gallinules on the other, from the first of which they are distinguished by a shorter, thicker, and more angular bill, and from the latter in wanting the extension of the lateral membrane that borders the soles of the toes, as well as the naked callous skin (or plate) that occupies the forehead. By LINNÆUS, they were included in his genus *Rallus*, but LATHAM afterwards, under his system, transferred them to the genus *Gallinula*, in which he has been followed by TEMMINCK, who places them in his first sectional division of that genus. BECHSTEIN, however, and other ornithologists of the present day, have separated them from both genera, constituting a new one for their reception, and to which they are fairly entitled, from the distinctive characters they display. Their habits are similar, in many respects, to the above mentioned birds, being of a shy and solitary disposition, living concealed in the thick herbage of meadows or marshy districts. They have the same thin and compressed shape of body, and they run with a skulking gait, and with great quickness, seldom taking wing unless suddenly surprised, or when forced to it by persevering pursuit, of course, with the exception of the times of their annual migrations.—They feed on worms and insects, as well as vegetables and seeds.—Their flight is awkward and heavy, and

they hang their legs when only on wing for a short distance. All the British species are migratory, and come under the designation of summer visitants. The plumage of both sexes is nearly alike, differing only in the colours of the male bird being purer and brighter in tint. The young, however, are very different, and do not acquire the matured plumage till they undergo the second general moulting.

MEADOW OR CORN CRAKE.

CREX PRATENSIS, *Bechst.*

PLATE XXX*.

- Crex pratensis*, *Bechst.* Naturg. Deut. 4. 470.
Ortygometra Crex, *Steph.* Shaw's Zool. 12. 218. pl. 26.—*Flem.* Br. Anim. 1. 98. sp. 129.
Rallus Crex, *Linn.* Syst. 1. 261. 1.—*Gmel* Syst. 1. 711.
Gallinula Crex, *Lath.* Ind. Orn. 2. 766. sp. 1.—*Temm.* Man. d'Ornith. 2. 686.
Porphyrio rufescens, *Briss.* 5. 533. 5.—*Will.* 236.
Rale de Genet, ou *Roi des Caillies*, *Buff.* Ois. 8. 146. t. 12.—*Id.* Pl. Enl. 750.
Poule d'Eau de Genet, *Temm.* Man. d'Ornith. 2. 686.
Wiesenknarrer, *Bechst.* 4. 470.—*Meyer*, Tasschenb. Deut. 1. t. Heft 10.
Land-Hen, *Daker-Hen*, or *Rail*, *Will.* (Angl.) 170. t. 29.
Crake Gallinule, *Penn.* Br. Zool. 2. 484. No. 216. pl. 75.—*Lath.* Syn. 5. 250. 1.—*Mont.* Ornith. Dict. 1. *Bewick's* Br. Birds. i. 311.
Corn-crake, *Steph.* Shaw's Zool. 12. 218. pl. 26.—*Flem.* Br. Anim. 1. 98. sp. 129.

PROVINCIAL.—Land-rail, Crek, Bean-crake, Corn-cracker, Corn-drake.

SOME writers have attempted to separate the Meadow-Crake from the other species, and to make it the type of a genus; not, it would appear, from any essential difference in its characters (which, on the contrary, and particularly with respect to anatomical structure, agree with the others), but from a fancied difference in its habits, which are considered not so much approaching to aquatic as those of any of its congeners. This modification will, however, be found much slighter in reality than they who would thus separate the species are willing to allow, being in fact confined to a trifling difference in the quality and dampness of the soils these

birds respectively frequent; the Meadow Crake (and, indeed some other species), affecting rich meadows, occasionally inundated by running streams; the others, the rougher growth of marshy grounds or stagnant waters. In all other particulars their manners are very similar, being of an equally shy and timorous nature, depending for safety more upon the concealment afforded by the long herbage in which they habitually reside, and upon swiftness of foot, than on their power of flight, as they are with difficulty roused to the latter expedient.—This species is a summer visitant to us, arriving in the southern and midland parts of the island in the end of April, but seldom observed in the north before the beginning of May. The first indication of its presence is given by its peculiar and well known cry of *crek, crek*, frequently repeated in a rough broken kind of note, not unlike the sound produced by drawing a stick along the teeth of a strong comb, and by which imitation the bird may frequently be enticed within a very short distance. This is the note of the male, and is continued until a mate be found and incubation commenced, after which it ceases. Its favourite resorts are rich meadow grounds, near to rivers, lakes, &c. particularly such as are subject to occasional inundation. Upon the banks of the Trent below Newark, the meadows (which are of this description) are annually visited by great numbers of Crakes; and I have, in the course of an hour, killed eight or ten in a single field. They are very plentiful throughout Wales, the north of England, and Scotland, in all such low situations as afford meadows and cultivated land in the immediate vicinity of water. In the Highlands of Scotland, and the Hebrides, they also abound, and their migration extends to the Orkney and *Shetland* Isles. PENNANT remarks, that on first arriving in Anglesea they are very lean; but, in the midland and northern districts of England, I have generally found them in high condition, and, I think, as fat as they usually are previous to their departure in autumn. This may perhaps be accounted for on the supposi-

Periodical
visitant.

tion (which the observations I have made corroborate), that the Welsh and Irish shores are the first upon which these birds land, as being in the direct line of their polar migration from Northern Africa and the southern parts of Europe, and that, from the extent of their journey, they arrive exhausted and reduced, but are recruited by a short residence, or during the time spent in a gradual passage to their different places of resort. The Crake runs very swiftly, threading through the closest grass with extraordinary ease, and, unless sorely pressed, or from a failure of cover, is very unwilling to seek safety in flight. To succeed in *flushing* it requires the aid of a dog trained to the sport, and taught either to follow the *T'rail* with great quickness, or to make a rapid circuit and get in advance of the bird. It flies low, and in a heavy wavering manner, with the feet hanging down, and seldom to any distance at a time. It breeds in meadows, or in the rough herbage of moist thickets, and sometimes in

Nest, &c. standing corn, if near to water. The nest is composed of grass and other dried plants, a slight hole being first made in the ground, and the eggs, in number from ten to fourteen, are of a yellowish-white, slightly tinged with pink, and spotted irregularly with reddish-brown, in size nearly equal to those of the partridge, but of a more oblong shape. The young, when excluded, quit the nest, and are then covered with a black hairy down, which gives place by degrees to the usual plumage, and in less than six weeks they are able to fly. When uttering its cry, the neck of the Crake is stretched perpendicularly upwards, and the note is varied, seeming to a listener to come from different distances, and producing thus an effect similar to ventriloquism.—It feeds on worms, slugs, and insects, with vegetables and seeds. I have kept this bird in confinement in apparent good health, on a diet of earth-worms, and bread steeped in milk. In this species a few of the frontal feathers possess the hard and horny tip that distinguishes the Rails; but this is not found in the others of the genus.

Food.

PLATE 30 *. Represent a male and female of the natural size.

Bill brown. Eyes yellowish-brown. Over the eyes, and down the sides of the neck is a streak of ash-grey. Chin and throat yellowish-white, tinged with ash-grey. Breast pale yellowish-brown, tinged with ash-grey. Belly reddish-white. Flanks and under tail-coverts pale reddish-brown, barred with reddish-white. Crown of the head and upper parts of the body deep liver-brown, each feather having a broad margin of pale-yellowish-brown, slightly tinged with oil-green. Wing-coverts pale orange-coloured brown. Quills hair-brown, tinged with reddish-brown. Legs yellowish-brown, with a tinge of grey.

General description.

SPOTTED CRAKE.

CREX PORZANA, *Bechst.*

PLATE XXX. FIGS. 1. and 2.

- Rallus Porzana*, *Linn. Syst.* 1. 262. 3.—*Gmel. Syst.* 1. 712.
Gallinula Porzana, *Lath. Ind. Orn.* 2. 772. sp. 19.—*Temm. Man. d'Ornith.* 2. 688.—*Flem. Br. Anim.* 1. 99. sp. 131.
Ortygometra Porzana, *Steph. Shaw's Zool.* 12. 223.
Rallus aquaticus minor, sive *Maructa*, *Briss. Orn.* 5. 155. pl. 13. f. 1.
Gallinula ochra Gesneri, *Raii Syn.* 115.—*Will. (Angl.)* 316.
Rale d'Eau ou la Maronette, *Buff. Ois.* 8. 157.—*Id. pl. Enl.* 751.
Poule d'Eau Maronette, *Temm. Man. d'Ornith.* 2. 688.
Punktirtes Rhorhuhn, *Bechst. Naturg.* Deut. 4. 478.—*Meyer, Tasschenb.* Deut. 2. 412.
Spotted gallinule, *Penn. Br. Zool.* 2. 486. No. 215.—*Arct. Zool. Sup.* 69.
—*Lath. Syn.* 5. 264. 18.—*Wall. Syn.* 2. pl. 172.—*Mont. Ornith. Dict.* 1. and Supp.—*Flem. Br. Anim.* 1. 99. sp. 131.
Water Crake, *Bewick's Br. Birds*, 2. t. p. 10.
Spotted Crake, *Steph. Shaw's Zool.* 12. 223.
Skitty, *Rennie's ed. of Mont.* p. 462.

PROVINCIAL—Spotted Rail, Spotted Water-Rail, Spotted Water-Hen.

THIS prettily marked small species of Crake (being about one-third less than the preceding one) is one of our earliest birds of passage in arrival, and among the latest in taking its departure, as MONTAGU mentions having met with it in

Periodical visitant.

Devonshire on the 14th of March, and having seen it in autumn as late as the 23d of October. Though not numerous, these birds are rather generally disseminated throughout England, in such localities as accord with their habits; and I have also found them in various parts of Scotland, although MONTAGU states, that, in his time, the species had not been observed farther to the northward than Cumberland. Their haunts are the margins of pools and rivulets, overgrown with reeds, sedges, and other thick herbage, as well as more extensive marshy grounds; and, as in habits strongly resembling their nearly allied congeners, they are rarely seen unless expressly sought after. By the aid of a dog accustomed to pursue these birds, I have (in the autumn, just previous to their departure) sometimes *flushed* as many as six in a large morass in my neighbourhood, the majority of which were generally young birds of the year. The flight of the Spotted Crake is similar to that of the others, and of the Rail,—from the latter of which, owing to its darkness of colour, it is difficult to be distinguished when on wing.

- Nest, &c. —Its nest is built amongst the thick sedges and reeds of the marshes, and from the foundation of it being frequently placed in water, is composed of a large mass of decayed aquatic plants interlaced, with the hollow neatly formed and comfortably lined. The eggs are eight or ten, of a yellowish-grey colour, with a tinge of pink, and with round spots of umber-brown of various sizes, and with others of a lighter shade, appearing to be (as it were) beneath the exterior shell. In magnitude the eggs equal those of a Missel Thrush.—It
- Food. feeds on worms, aquatic insects, slugs, seeds, &c.; and its flesh, like that of the Meadow Crake, is sweet and well-flavoured. In autumn it becomes loaded with fat, a layer of nearly a quarter of an inch in thickness covering the whole surface of its body. The species is widely distributed through Europe, particularly in the southern and eastern parts, and is also found in Northern Asia.

PLATE 30. Figs. 1. and 2. The male and female in summer.

Bill red at the base, the other part lemon-yellow. Fore-
head, eye-streaks, chin, and throat, deep smoke-grey. General
description.

Crown of the head deep brown, the feathers being margined with yellowish-brown, and speckled with white. Sides of the neck, breast, and under parts pale oil-green, tinged with grey; with transverse bars and spots of white, surrounded by a narrow list of black. Mantle, shoulders, and scapulars black, the feathers being deeply edged with oil-green, and marbled with white, surrounded by a narrow list of black. Wing-coverts oil-green, tinged with yellowish-brown, and with white spots, surrounded by a line of black. Lower part of back, and upper tail-coverts black, edged with white and pale oil-green. Under tail-coverts yellowish-white. Quills hair-brown, tinged with oil-green, with the outer web of the first quill-feather white. Legs wax-yellow.

The young have the upper parts of a deeper oil-green, and the white more dispersed in the form of small spots. Eyebrows deep grey, with numerous white specks. Cheeks, chin, and throat greyish-white, with a few darker specks. Lower part of the neck and the breast oil-green, tinged with grey, and with small spots of white. Belly and abdomen greyish-white. Quills deep hair-brown. Legs deep oil-green, tinged with grey. Bill dirty saffron-yellow at the base, the tip brown. Young
bird.

BAILLON'S CRAKE.

CREX BAILLONII, J. & S.

PLATE XXX. FIG. 3.

Crex Baillonii, *Jardine and Selby's Illus. of Orn.* part 1. pl. 15.
Gallinula Baillonii, *Temm. Man. d'Ornith.* 2. 692.
Ortygometra Baillonii, *Shaw's Zool.* 12. 228. pl. 27.
Gallinula Foljambei? *Mont. Ornith. Dict. App. to Supp.*?
Poule d'Eau Baillon, *Temm. Man.* 2. 692.
Olivaceous Gallinule? *Mont. Ornith. Dict. App. to Supp.*?
Baillon's Crake, *Jardine and Selby's Illus. of Orn.* 1. pl. 15.—*Shaw's Zool.*
 12. 228. pl. 27.

AFTER an attentive perusal of MONTAGU's description of the *Olivaceous Gallinule*, given in the Appendix to the Supplement of his Ornithological Dictionary, and comparing it with TEMMINCK's account of *Gallinula Baillonii*, as well as with several specimens of that bird, I feel considerable doubt whether it can properly be referred to that species; and I have therefore retained TEMMINCK's specific appellation, instead of that of *Foljambei*, to which (if they were really identical) the bird now under consideration would, by priority of imposition, be entitled. With respect to size, and to the comparative length of the wings (as far as can be judged from MONTAGU's figure) they nearly agree, but in other particulars the *Foljambe* bird differs considerably from *Crex Baillonii*. The upper parts of the body are described as totally free from any white spots or markings, of which I never yet found any mature specimens of *C. Baillonii* entirely destitute; and the bird thus described having been killed in the month of May, there remains no doubt of its being an adult. It might, however, be suggested, that this is merely a sexual difference, being the summer livery of the female, but such an idea is directly contradicted by TEMMINCK's statement, that the females do not differ from the males; and I may add, that the various specimens of both sexes that have come under my notice, always possessed the characteristic white markings on the upper parts of the body. The

legs are also described as of an olive colour ; whereas those of *C. Baillonii* are flesh-coloured, and the bill orange-red at the base, a particular unnoticed by TEMMINCK in his account of the latter species, but which nearly agree with the colour of those parts in *Crex pusilla*. MONTAGU's bird is evidently nearly allied to *C. Baillonii* ; but as, in ornithology, *specific* differences are sometimes found to exist in features of as little apparent consequence as those just mentioned, it is not improbable but that future investigation will prove the *Gallinula Foljambei* of MONTAGU to be a distinct species from either the *C. Baillonii* or *C. pusilla*. For the present, however, I have inserted it as a doubtful synonym of the former of these.—This Crane, like the others of the genus, is an inhabitant of swamps, and the reedy margins of lakes or smaller pools ; in such retirement its peculiar shyness of disposition screens it from observation, unless, when suddenly surprised, it is compelled to make a momentary use of its pinions. At other times, when aware of the approach of danger, it evades its enemy by the rapidity of its progress through the entangled aquatic herbage ; or by the ease with which, from the compressed and wedge-shaped form of its body, it can pierce through the interstices of the thickest bed of reeds. It is also said to swim and dive well, and sometimes to elude pursuit by submerging its body, and keeping its bill only above the surface of the water, as the Rail and Common Gallinule frequently do.—In Britain it is only known as a rare visitant ; and the few specimens which have occurred have all been taken in the eastern parts of England ; nor have I hitherto met with any instance of its capture in the north. Upon the opposite continental coast, in nearly the same parallel of latitude, it is not uncommon, being well known in the neighbourhood of Boulogne, where it annually breeds in the marshes. It is also spread over the other districts of France during its polar migration ; but is much more numerous in Italy, and the eastern parts of Europe.—Its nest is usually placed near to the water's edge, or

Rare visitant.

Nest, &c.

fastened to the reeds, and is formed of decayed sedge and aquatic weeds entwined and matted together.* The eggs are eight or ten in number, of a greyish-white, spotted with yellowish-brown, and rounded at both ends. The food of this species is similar to that of its congeners, viz. worms, slugs, insects, and sometimes vegetables and seeds.

PLATE 30. Fig. 3. Represents this bird of the natural size, from a specimen caught near Melbourne, in Cambridge-shire, and now in the possession of the Rev. Dr THACKERY, Provost of King's College, Cambridge.

General
description.

Bill dark olive-green, thicker and shorter than that of *Crex pusilla*. Crown of the head, and back part of the neck, wood-brown. Throat and fore part of the neck, cheeks, breast, and belly, bluish-grey, with a few undulations of brown upon the breast, indicative of a young bird. Flanks, vent, and under tail-coverts greyish-black, barred with white. Upper parts yellowish-brown, tinged with oil-green, and marbled with irregular spots of white, each being surrounded by a narrow border of black. Outer web of the first quill-feather margined with white. Legs and toes yellowish-brown, tinged with flesh-red. Irides reddish-brown.

An adult male in my possession has the chin and throat pearl-grey; the forehead, cheeks, sides, and fore part of the neck, breast, and belly, plain bluish-grey; thighs, abdomen, vent, and under tail-coverts greyish-black, barred with white. Crown of the head, and hind part of the neck, yellowish-brown, with the shafts of the feathers darker. Down the centre of the back is a broad black list, varied with irregular spots of white. The scapulars, tertials, and wing-coverts yellowish-brown, tinged with oil-green, and varied with white spots and streaks, surrounded, or else barred, with black.

LITTLE CRAKE.

CREX PUSILLA, Mih.

PLATE XXX. FIG. 4.

Rallus pusillus, *Lath.* Ind. Orn. 2. 761. sp. 24.—*Pall.* Reis. 3. 700. No. 30.
Gallinula pusilla, *Bechst.* Naturg. Deut. 4. 484.—*Temm.* Man. 2. 690.
Gallinula minuta, *Mont.* Ornith. Dict. Supp.
Zapornia pusilla, *Steph.* Shaw's Zool. 12. 231. pl. 28.
Poule d'Eau Poussin, *Temm.* Man. d'Ornith. 2. 690.
Kleines Rhorhuhn, *Meyer*, Tasschenb. Deut. 2. 414.
Dwarf Rail, *Lath.* Syn. Sup. 2. 323.
Little Gallinule, *Mont.* Ornith. Dict. Supp.
Little Craker, *Steph.* Shaw's Zool. 12. 231. pl. 28.

THE little Crake rather exceeds in size the preceding species, to which it bears a close resemblance in shape and colour. It may, however, always be distinguished from the other by the comparative slenderness of its bill, the greater length of its wings (which, when closed, reach nearly to the tip of the tail), and by the naked portion of the tibia being longer and more apparent than in *Crex Baillonii*. In consequence of this slight modification in the form of the bill, and its greater length of wing, Dr LEACH, in his Catalogue of the British Museum, separated it from the other Crakes, and gave it the generic name of *Zapornia* (an apparent transmutation of *Porzana*); in which distinction he has been followed by Mr STEPHENS, the continuator of SHAW'S Zoology. I have, nevertheless, ventured to retain it amongst the Crakes, thinking that the very slight difference it exhibits is not of sufficient importance to warrant a generic division.—Like the *Crex Baillonii* it is of rare occurrence, and can only be considered as a visitant of that character. Its first notice, as a British species, is contained in MONTAGU'S Supplement to his Ornithological Dictionary, under the name of the Little Gallinule (*Gallinula minuta*), where a specimen he received from Mr TUCKER, and apparently a young bird,

Rare visitant.

is accurately described: this bird, it appears, was shot near *Ashburton*, in Devonshire, in the year 1809. Since that time, few individuals have, I believe, been noted; one, however (an adult), now in the possession of the Rev. T. GIBBORNE, of Yoxall Lodge, Staffordshire, and Prebendary of Durham, was killed near Derby, and from which the figure in this work is taken. The habits of the Little Crake are similar to those of the other species, and it is found in similar localities, viz. marshes, moist meadows, the reedy banks of rivulets, &c. In the eastern and warmer parts of Europe it is very abundant, but becomes more thinly disseminated towards the north, being of occasional occurrence only in most of the provinces of France, and also in Holland. According to TEMMINCK, it makes its nest in rushes and other thick herbage, constructed chiefly of decayed and broken reeds; and lays seven or eight eggs, of a yellowish or greenish-white (*jaunâtres*), with longitudinal spots of olive-brown.

Nest, &c.

Food.

It feeds upon insects, worms, slugs, &c.

PLATE 30. Fig. 4. Represents it of the natural size, from the above mentioned specimen in the possession of the Rev. Mr GIBBORNE.

General
description.

Male
bird.

Bill five-eighths of an inch long, slender, and of a fine sap-green colour. Irides crimson-red. Throat, sides of the head, and neck, breast, and abdomen, deep bluish-grey. Crown of the head, back part of the neck, and upper parts of the body, deep oil-green, tinged with brown. Down the mesial line of the back is a broad streak or patch, composed of feathers marbled with black and white. The scapulars have a longitudinal bar of white, encircled with black, near the margins of the feathers. Smaller coverts plain oil-green, the greater ones having white tips, surrounded by a line of black. Vent and under tail-coverts blackish-grey, transversely barred with white. Quills and tail hair-brown, tinged with oil-green. Legs and toes sap-green. Tarsus one

inch in length. Middle toe, with its claw, one inch and a half long. Wing-spine small and short.

In the female, the eyebrows and cheeks are pale grey. Female.

The throat greyish-white. Neck and breast of a paler grey, slightly tinged with yellowish-brown. The dark mesial line on the back having fewer white spots.

The young have few or no distinct white spots upon the upper parts of the body; and the fore part of the neck, the breast, and belly, are of a yellowish-white. The flanks, vent, and under tail-coverts brown, barred with pale yellowish-brown. Young.

For a more detailed account of this bird, I refer my readers to the Supplement to MONTAGU'S Ornithological Dictionary, under the article *Gallinule*, *Little*.

GENUS GALLINULA, LATH. GALLINULE.

GENERIC CHARACTERS.

Bill thick at the base, compressed, slightly swollen towards the tip, subconic, as short as the head. Upper mandible convex, with the culmen extended and dilated, forming a naked frontal plate or shield; lateral furrow wide. Mandibles of nearly equal length; angle of the lower one ascending. Tomia of the under mandible slightly intracted, and covered by the upper.

Nostrils lateral, pervious, pierced in the membrane of the furrow in the middle of the bill; longitudinal, and linear.

Wings (as in *Rallus* and *Crex*) armed with a small sharp recumbent spine.

Legs strong, of mean length, naked for a short space above the tarsal joint. Front of the tarsus scutellated; hinder part reticulated. Feet four-toed, three before and one behind; toes long, divided, and bordered through their whole length by a narrow entire membrane.

Plumage soft, thick, but loose in texture. Body compressed at the sides.

The Gallinules differ from the preceding genus in having the culmen of the upper mandible dilated in a plate-like form upon the forehead, and in having their toes bordered, for the whole of their length, by a narrow unbroken membrane. Their habits are also more aquatic, being more frequently seen upon the water, where they swim and dive with facility, and in which element they procure a principal part of their food. In affinity, they stand nearly allied to the genus *Crex* on the one hand, and to those of *Porphyrio* and *Fulica* on the other. With them the body is compressed, but not to so great a degree as in the Rails and Crakes. They run swiftly, and, when danger threatens, hide themselves in reeds, sedges, holes in river banks, &c. They breed in the neighbourhood of water, frequently founding the nest upon floating weeds or drift bushes, and lay several eggs. Their food consists of insects, worms, slugs, vegetables, and seeds.

COMMON GALLINULE.

GALLINULA CHLOROPUS, Lath.

PLATE XXXI.

Gallinula Chloropus, Lath. Ind. Ornith. 2. 770. sp. 13.—*Steph. Shaw's Zool.* 12. 242. pl. 30.—*Flem. Br. Anim.* 1. 99. sp. 130.

Fulica Chloropus, Linn. Syst. 1. 258. 4.—*Gmel. Syst.* 1. 698.

Gallinula Chloropus major, *Raii Syn.* p. 113. A. 1.—*Briss. Ornith.* 6. 3. 1. t. 1.—*Will.* 233. t. 58.

Poule d'Eau, *Buff. Ois.* 8. 171. t. 15.—*Id.* pl. Enl. 877.

Poule d'Eau ordinaire, *Temm. Man. d'Ornith.* 2. 693.

Grünfussiger Rhorhuhn, *Bechst. Naturg. Deut.* 4. 489.—*Meyer, Taschenb. Deut.* 2. 410.

Common Water-Hen, or Moor-Hen, *Will. (Angl.)* 312. 58.—*Albin. Birds*, 2. pl. 72. 3. pl. 91.—*Bewick's Br. Birds*, 2. 128.

Common Gallinule, *Penn. Br. Zool.* 2. 217. pl. 77.—*Arct. Zool.* 2. 411.—*Lath. Syn.* 5. 258. 12.—*Lewin's Br. Birds*, 5. pl. 191.—*Walc. Syn.* 2. pl. 169.—*Mont. Ornith. Dict.* 1.—*Shaw's Zool.* 12. 242.—*Flem. Br. Anim.* 1. 99. sp. 130.

Gallinula fusca, *Lath. Ind. Ornith.* 2. 771. sp. 15.

Fulica fusca, *Linn. Syst.* 1. 257. 1.—*Gmel. Syst.* 1. 697.

Gallinula minor, *Briss. Ornith.* 6. 6. f. 2.

Gallinula alia, *Aldrov.—Will.* 234.—*Id. (Angl.)* 314. and 319. } Young.

La Poulette d'Eau, *Buff. Ois.* 8. 177.

Brown Gallinule, *Lath. Syn.* 5. 260. 14.

Gallinula flavipes et fistulans, *Lath. Ind. Ornith.* 2. 773. sp. 21. et 22.—*Gmel. Syst.* 1. p. 702.

Yellow-legged, and Piping Gallinule, *Lath. Syn.* 5. 266. and 267. sp. 20. et 21. These are taken from GESNER, who appears to have described them from imperfect drawings.

PROVINCIAL.—Moor-Hen, Marsh-Hen, Stank-Hen, Cuddy, Water-Hen, Moor-Coot.

THIS well known bird is indigenous, and very generally dispersed throughout the kingdom, inhabiting old water courses, and ponds covered with aquatic herbage, as well as brooks and rivers, particularly such as flow with a deep and slow current, and are bordered by sedges, willow bushes, &c. It is also dispersed throughout the European continent, where it is permanently stationary in the warmer and temperate districts, but migratory as it approaches nearer to the north. The species is also found in parts of *Asia* and *Africa*. The habits of the Gallinule are decidedly aquatic, as it swims from choice, and is indeed more frequently seen in the watery element than upon land; it also dives with ease, not only to avoid impending danger, but as it would appear for the purpose of obtaining food; as I have several times known it to have been taken by a line baited with an earth-worm for catching eels, or trout. It is thus in all probability that the Gallinule obtains the larger coleopterous water insects, aquatic worms, and the larvæ of dragon-flies, &c. When suddenly surprised in a situation at all exposed, it usually takes wing, skinning along the surface of the water, but only for a short distance, to the first bush or cover that offers, where it conceals itself so effectually, either by submerging its body, and keeping only the bill above water, or in some hole or shelving retreat in the bank, as generally to defeat any attempts at raising it a second time, even with the assistance of a dog. Its flight is heavy, and when for a

short space only, with the legs hanging down; though it rises without apparent difficulty, and can occasionally take a long course on wing. It will sometimes perch upon a bush, or low tree, and that without effort, its long and slender toes giving to it a strong power of grasp. On the margins of ponds or rivers, where the grass is short, it is frequently seen walking about in search of worms and slugs, flirting up its tail at intervals, and thus displaying, in a conspicuous manner, its white under coverts; and as its motions are lively, it becomes a desirable ornamental appendage to those parts of pleasure grounds. For the site of its nest it selects a retired spot among the sedges or low brooks by the water-sides, its foundation frequently resting upon the low floating branches, or upon the stump of an old willow-tree. It is formed of an interlaced mass of decayed flags, rushes, &c. of considerable thickness; in which are deposited from eight to ten eggs, larger than those of the Meadow Crake, and of a yellowish-white, or pale yellowish-brown colour, marbled all over with a differently-sized spots of reddish-brown, or umber brown of various shades. These birds, when they leave the nest for the purpose of feeding, cover their eggs; an instinctive habit possessed by several others, not only of this but of other families, and which I conceive to be done rather with a view to concealment from their enemies, than to retain during their absence the warmth generated by incubation, as suggested by Dr RENNIE. After three weeks the young are excluded, covered with a black hairy down, and immediately take to the water, where they are assiduously attended by the parent, who frequently broods over them in the manner of a hen. This downy covering gradually gives place to the usual plumage, and in the course of nearly five weeks they can fly and provide for themselves. In this young state they are exposed to many dangers, and often become the prey of rats and other vermin, as well as of the voracious pike, which, according to MONTAGU, has been known even to swallow the old bird.—Their nests and eggs are also

liable to accident, being, from their close situation to the water's edge in brooks and rivers, often carried away by the summer floods.—Slugs, worms, and insects, with various vegetables and seeds constitute their food. I have kept these birds in good health, when in confinement, upon a diet of grain, earth-worms, and raw meat. Their flesh is of pale colour and delicate flavour, and is in some parts held in high estimation.

PLATE 31. represents an adult bird in the breeding season.

Base of the bill, and frontal shield red; the tip wine-yellow. Irides red. Legs and toes fine olive-green. The naked portion of the tibiae of a fine vernilion-red, and commonly called the *garter*. Head, throat, neck, and under parts blackish-grey, margined upon the belly and abdomen with greyish-white. Flanks with large longitudinal streaks of white. Upper parts of the body of a very deep oil-green. Ridge of the wings, and under tail-coverts white; the latter being divided by several black feathers. Quills and tail greyish-black.

The female is rather less than the male; and in her the colours of the bill and garter are not so bright; but in other respects similar.

The young have the throat and fore part of the neck white. Front and cheeks a mixture of brown and white. Sides of the neck yellowish-brown. Breast and sides ash-grey, tinged with brown; the belly paler. Flanks with yellowish-brown longitudinal streaks. Under tail coverts cream-yellow. Upper parts blackish-grey, tinged with dark oil-green. Legs dirty olive-green. Bill olive-green, darker towards the base, and the frontal shield but slightly apparent, being almost hidden by converging feathers.

Food.

General
descrip-
tion.

Young.

GENUS FULICA, LINN. COOT.

GENERIC CHARACTERS.

Bill shorter than the head, strong, strait, subconic, compressed, much higher than broad. Upper mandible slightly arched; the culmen dilated into a broad shield-like plate upon the forehead; mandibular furrow broad, and occupying two-thirds of its length. Mandibles of equal length; the angle of the lower one ascending.

Nostrils concave, pierced in the membrane of the mandibular furrow near the middle of the bill, pervious, linear, oblong.

Wings tuberculated; with the second and third quill feathers the longest. Tail short. Body laterally compressed.

Legs of mean length and strength; naked for a short space above the tarsal joint. Feet four-toed, three before and one behind; toes long, united at their base, and lobated; the middle toe with *three*, the inner one with *two*, and the outer with *four*, distinct rounded membranes. Middle toe longer than the tarsus. Front of tarsus, upper part of the toes, and the membranes scutellated. Hind toe as long as the first joint of the middle one, and resting for half its length upon the ground. Claws falcate, acute. Plumage thick, soft, and open in texture.

In the present arrangement the Coots are placed in that station to which their real affinities (as indicated by their anatomy and habits), so plainly point, viz. at the extremity of the *Rallidæ*, and leading the way, by their lobated feet and aquatic character, to the true swimming birds, in the succeeding order of *Natatores*. From the Gallinules they are chiefly separated by the greater development of the membrane bordering the toes, which, instead of being narrow and entire as in that genus, becomes large and rounded

distinct lobes, which correspond with the phalanges, or joints of the toes. This formation gives them more power in the water, and we accordingly find them more conversant with that element than the preceding genera. In other respects there is great similarity of manners, and their narrow form and general appearance denote their near alliance to the typical *Rallidæ*. By former systematists, the Coots, together with the Phalaropes and Grebes, were made a distinct order, styled *Pinnatipedes*; an arrangement purely *artificial*, as the members of which it was composed were not united together by affinity, but only bore, in the form of their feet, a distant analogy to each other; for even here a considerable difference existed in structure, as will be evident to any one who compares the foot of the Coot with that of the Grebe.

The members of this genus inhabit lakes and ponds, as well as the more retired and calmer parts of inland seas. They live chiefly on the water, where they swim and dive with equal facility, and are but rarely seen on the land. They feed on worms, insects, aquatic vegetables, and seeds. The species are few, and their plumage is dark, and commonly without variety of colour. They breed amongst the close and tall herbage of the waters they inhabit, and lay several eggs. Their flesh is palatable.

COMMON COOT.

FULICA ATRA, Linn.

PLATE XXXII.

- Fulica atra*, Linn. Syst. 1. 257.—*Lath.* Ind. Ornith. 2. 777. sp. 1. variety.—*Gmel.* Syst. 1. 702.—*Briss.* Ornith. 6. 23. t. 2. f. 2.—*Raii* Syn. 116. A.—*Steph.* Shaw's Zool. 12. 234. pl. 29.—*Flem.* Br. Anim. 1. 100. sp. 132.
Fulica aterrima, Linn. Syst. 1. 258. 8.—*Gmel.* Syst. 1. 703.—*Lath.* Ind. Ornith. 2. 778. sp. 2.
Fulica major, *Briss.* Ornith. 5. 28. 2. t. 2. f. 2.—*Raii* Syn. 117. 2.—*Will.* p. 239. t. 51.
 Le Foulque ou Morelle, *Buff.* Ois. 8. 211. t. 18.—*Id.* Pl. Enl. 197.—*Cuv.* Reg. Anim. 1. 503.
 Le Grand Foulque ou la Macroule, *Buff.* Ois. 8. 220.

- Foulque Macroule, *Temm. Man. d'Ornith.* 2. 706.
 Schwartzes Wasserhuhn, *Bechst. Naturg. Deut.* 4. 511.
 Greater Coot, *Penn. Br. Zool.* 2. No. 221.—*Lath. Syn.* 5. 277. 2.—*Will.* (Angl.) 320.—*Mont. Ornith. Dict.* 1.—*Bewick's Br. Birds*, 2. 137.
 Common Coot, *Penn. Br. Zool.* 2. 494. No. 220. pl. 77.—*Arct. Zool.* 2. No. 416.—*Albin's Br. Birds*, 1. pl. 83.—*Lath. Syn.* 5. 271.—*Id. Sup.* p. 259.
Will. (Angl.) 319. t. 59.—*Lewin's Br. Birds*, 5. t. 198.—*Pult. Cat. Dorset.*—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, 2. 133.—*Shaw's Zool.* 12. 234. pl. 29.

PROVINCIAL—Bald Coot, Bel-poot.

DURING the summer, the Coot is very generally dispersed throughout this kingdom, as there is scarcely a large piece of water (provided it is partially covered with reeds, or other tall aquatic plants), to be found without a colony of these birds. MONTAGU states them to be permanent residents in the southern parts of England, and as never forsaking their breeding places, even though these may be smaller ponds; but, at the same time, he hints the probability that the vast flocks which are seen in the Southampton River, and other salt-water inlets, in winter, are bred farther to the northward, and resort to these places only as visitants at that period. Of the correctness of this supposition I entertain no doubt, as a long course of observation has shewn that the Coots in the north of England and in Scotland regularly quit their breeding stations in autumn; and that, after the month of October, not an individual is to be seen in their summer haunts. Their return in spring, as nearly as I can ascertain, takes place towards the end of April, or the beginning of May.—The Coot swims with buoyancy and ease, and is also an excellent diver; which latter faculty it frequently exerts to obtain food, as well as to escape from danger. Like the Gallinules, and others of the *Rallidæ*, it is very timorous and impatient of observation; and, when disturbed, immediately makes for the reeds or thick sedges (the necessary appendages to its habitat), where it effectually conceals itself, and remains so as long as the intruder continues in sight. Although generally seen in the water, it is far from being an inactive bird on land, as BEWICK and

some other writers have stated, but walks with steadiness, and can run even swiftly. Like the Gallinule, it often quits its favourite element in the morning and evening, seeking on the land for worms, slugs, seeds, &c., which, with aquatic plants and insects, and the fry of fish, constitute its food ; though, in a state of confinement, it will greedily devour grain and other farinaceous diet. The same disinclination to use its wings is shewn by the Coot, that characterizes the Crakes and Gallinules, and it seldom flies, unless when suddenly disturbed or pursued, and then only to the nearest place of concealment ; and so low, as to aid its progress by striking the surface of the water with its feet. That it is not, however, incapable of long-continued flight is evident from the migrations it undertakes ; and I have more than once seen this bird flying at a considerable elevation, with a very unexpected degree of strength and speed. It breeds amongst the reeds and sedges at the water's edge, and the nest (composed of a large mass of decayed aquatic plants), sometimes rests upon a tuft of rushes, and at others is supported by the reeds in a floating state, or, where the water is shallow, may have its foundation on the bottom, as described by the Author of the " British Oology," whose interesting account of the nest of the Coot I quote in his own words : " I have had," says he, " an opportunity of examining many of their nests. They are large, and apparently clumsy at first sight, but are amazingly strong and compact : they are sometimes built on a tuft of rushes, but more commonly amongst reeds ; some are supported by those that lie prostrate on the water, whilst others have their foundations at the bottom, and are raised till they become from six to twelve inches above its surface, sometimes in a depth of one and a half or two feet. So firm are some of them, that, whilst up to the knees in water, they afforded me a seat sufficiently strong to support my weight." From the nature of the materials composing the nest, and of the situation in which it is built, it sometimes happens that it is torn from

Food.

Nest, &c.

its moorings by floods, and afterwards floated at random on the surface of the water, without destroying the eggs, or preventing the female from continuing her incubation, as in the instances recorded by MONTAGU and BEWICK. The eggs are from seven to ten in number; their colour a dirty greenish-white, thickly covered with minute specks of brown, and with others, less numerous, but of a larger size and deeper tint. The young, when excluded, are clothed with a harsh black down, tipped with grey; having the base of the bill and forehead covered with small scarlet appendages, and the occiput surrounded with a circle of yellow hairy down. They immediately quit the nest and take to the water; where they are attended and protected by the parent, till able to provide for themselves. This species is widely disseminated throughout Europe, but is particularly abundant in Holland and in parts of France, and it is also found in many parts of Asia. The *Greater Coot* of authors is now considered to be the perfect or adult state of the common kind; but the *Common Coot* of WILSON'S American Ornithology is a distinct species. In the southern parts of England, near Southampton, in the Isle of Sheppy, &c. great numbers of Coots are killed during the winter, and brought to market ready plucked; their flesh is white and tender, but the flavour, being peculiar, is not relished by many palates.

PLATE 32. represents this bird as seen in summer, and of the natural size.

General
descrip-
tion.

Bill pale rose-red. Irides arterial blood-red. Frontal plate large, milk-white. Head and neck deep greyish-black. Under parts of the body greyish-black, tinged with bluish-grey. Upper parts blackish-grey. Naked part of the tibiæ orange. Legs and toes greenish-grey, tinged with yellow.

The young of the year are of less size, and have the frontal plate very small. The under parts of the plumage are pale grey.

FAMILY V.—CHARADRIADÆ.

THIS subdivision, constituting the fifth family of the Order, completes the circle; and, by its alliance with certain members of the *Gruidæ* (with which that circle commenced), a regular series of affinities is maintained through the different families of the *Grallatores*. It also comes into close contact with the *Struthionidæ* of the *Rasorial Order*, by the affinity subsisting between certain species of the genus *Otis* of that family, and the genera *Cursorius*, *Ædicnemus*, &c. of the present one. The passage from the preceding family of the *Rallidæ* seems to be effected by the genus *Hematopus*, which retains to a certain extent the habits and power of swimming possessed by the more aquatic groups of that family; and which also exhibits rudiments of the lobated membrane that borders the toes of the genus *Fulica*. With the *Scolopacidæ* the connexion is supported by the genus *Arenaria* (Sanderling), which, with the three-toed feet of *Charadrius*, has a bill nearly corresponding in structure with that of the *Tringas*. An approach to that family, in the form of the feet, is also shewn by the genera *Streptilas*, *Vannellus*, and *Squatarola*, which alone of the *Charadriadæ* are furnished with a hind toe, or the rudiments of one. On this account the above genera have frequently been arranged with or near to the *Tringas*; but the structure of the bill, and other anatomical details, as well as their habits, demonstrate a much closer alliance to the typical members of the family in which they are now placed, and point out this deviation in the form of the foot, as one of those beautiful gradations that compose the great chain of affinity by which the various orders and families are held together.

The habits of the *Charadriadæ* vary according to the relative situation they hold with the other groups; the typical

species, and such as come nearest in structure to the *Rasorial* Order, being more attached to the land, than those which are more immediately connected with the other families of the *Grallatores*. These latter live on the sea-coasts, or in places immediately contiguous to water, obtaining their food in a great measure from that element; the others, on the contrary, reside in the interior of the country, preferring open ground and plains; whilst some of them even inhabit the arid sands of the desert. A great proportion of this family feed at twilight, or during the night, and have the eyes large, which is necessarily attended by a corresponding expansion of the socket, giving the head a bulky appearance; and this is a characteristic feature with them. The number of eggs laid by most of the genera is restricted to *four*, as in the *Scolopacidae*; in *Ædicnemus*, however, it is confined to *two*, thus exhibiting the connexion of this genus with the *Bustarda*. The flight of the *Charadriada* is in general strong and rapid; the wings being long, and usually brought to a point. Most of them are subject to the double moult, or that change of plumage which immediately precedes the season of reproduction.

GENUS HÆMATOPUS, LINN. OYSTER-CATCHER.

GENERIC CHARACTERS.

Bill longer than the head, strait, strong, the point much compressed and forming a wedge; culmen of the anterior part slightly convex. Upper mandible with a broad lateral groove, extending to one-half the length of the bill. Mandibles nearly equal, and having their tips truncated.

Nostrils basal, lateral, linear, pierced in the membrane of the mandibular groove.

Legs of mean length, naked for a short space above the tarsal joint. Tarsus strong; feet three-toed; all the toes

directed forwards, and united at their base by a membrane, that is prolonged, and margins them. Nails strong, broad, slightly falcate, and semi-acute. Wings of mean length, with the first quill-feather the longest.

Plumage close, firm, and adpressed. General contour robust.

The species hitherto described of this well-marked genus, although not numerous, are distributed over a wide geographical range, one or more of them being found in almost every quarter and climate of the globe. They dwell on the shores of the ocean, subsisting entirely on marine animals, such as molluscous shell fish, crustacea, &c., to detach and obtain which their strong wedge-shaped bill is admirably adapted. Their habits are more aquatic than the other groups of the family, indicated indeed by the membranes that unite and border their toes, and which conformation (as I have before remarked) preserves the connexion with the aquatic groups of the other families. They are thus enabled to swim with ease, and which they occasionally do, when passing from one feeding spot to another, where the water is too deep to admit of wading. During the winter, and whilst performing their migratory movements, they associate in large flocks; but on the approach of spring, they separate and pair. They are subject to a double moult, but not inducing any striking difference of colour. They are birds of a compact robust form, with a thick and muscular neck, well adapted to support the bill as a powerful lever in detaching patellæ, &c. from the rocks, or for wrenching open the shells of the bivalve mollusca. Their flight is strong and steady, and can be sustained for a long time. They breed on the shingle of the sea-coasts, and lay invariably *four* eggs.

COMMON OYSTER-CATCHER.

HÆMATOPUS OSTRALEGUS, Linn.

PLATE XXXIII. FIGS. 1. 2.

Hæmatopus ostralegus, *Linn. Syst.* 1. 257.—*Gmel. Syst.* 1. 694.—*Lath. Ind. Ornith.* 2. 752. 1.—*Raii Syn.* 105. A. 7.—*Will.* 220. 55.—*Shaw's Zool.* 11. 494. pl. 36.—*Flem. Brit. Anim.* 1. 115. sp. 167.
Ostralega seu Pica marina, *Briss. Orn.* 5. 38. t. 3. f. 2.
L'Huiterier, *Buff. Ois.* 8. 119. t. 9.—*Id.* pl. Enl. 929.
L'Huiterier Pie, *Temm. Man. d'Ornith.* 2. 531.
Geschackte Austern-Fischer, *Bechst. Naturg. Deut.* 4. 439.
Sea Pie, or *Pied Oyster-Catcher*, *Penn. Br. Zool.* 2. No. 213. pl. 74. in *Winter Plumage*.—*Arct. Zool.* 2. 406.—*Will. (Angl.)* 297.—*Albn.* 1. t. 78.—*Lath. Syn.* 5. 219. t. 84.—*Lowin's Br. Birds*, 5. t. 188.—*Monk. Ornith. Dict. Id. Sup.*—*Wall. Syn.* 2. t. 166.—*Pull. Cat. Dorset.* p. 151.
Bewick's Br. Birds, 2. t. p. 7.—*Low's Faun. Orcad.* p. 91.
Common Oyster-Catcher, *Shaw's Zool.* 11. 494. pl. 36.—*Flem. Br. Anim.* 1. 115. sp. 169.

PROVINCIAL.—Pianet, Sea Piet, Olive, Sea Woodcock, Trillichan, Chalder, Chaldrick, Skildrake, Scolder.

THE peculiar form of the bill, by which this bird is enabled to wrench open oysters, muscles, &c. (by inserting its wedge-shaped point between the valves, as these shell-fish lay partially open in shallow water), has given rise to the British trivial name, now attached to the genus. In addition to bivalves, it feeds much upon the limpet (patella), detaching it with equal ease from the rock to which it adheres, and afterwards scooping out the fish from its shell by means of the same powerful instrument. This species is indigenous, and distributed along the whole extent of the British coast, but seems to be more numerous upon extensive flat shores, particularly those of Lincolnshire and of the Solway Frith, where it finds its favourite food, viz. the bivalve shell-fish, more abundant than where the coast is of a more abrupt and rocky character. It breeds upon the shore, laying its eggs on the bare ground amongst the shingle, or in such scanty herbage as grows immediately above high water-mark. The

eggs are invariably *four* in number, and not restricted to *two* or *three*, as stated by TEMMINCK; are of a pale oil-green colour, blotched with brownish-black; in that respect very similar to those of the Golden Plover (*Charadrius pluvialis*), but larger. During incubation the male bird is always on the watch, and immediately gives the alarm of apprehended danger to the female, by a loud shrill whistle, upon hearing which she silently quits her eggs, and runs to some distance before taking wing, or joining in the alarm cry with her mate. The parents are also very clamorous so long as the young (who quit the nest as soon as hatched) are unable to fly, and persecute any intruder with their incessant cries, flying around him in repeated circles, and often advancing very near, although at other times they are particularly wary and difficult of approach. After the young have acquired their full growth, these birds begin to assemble into large flocks, and continue thus associated during winter, or until the genial influence of the advancing season again induces them to separate and pair. The Oyster-Catcher is a bird of handsome appearance, of compact and rounded form, and when upon wing cannot fail to attract attention, from the pure white of the belly, wing-bars, and rump, contrasting well with the bright orange of the bill, and the glossy black of the rest of the body. Though possessing a foot only partially webbed, it swims easily and with much buoyancy, and, if wounded, immediately betakes itself to the water for safety. I have also seen it swimming from one feeding-place to another, where the intervening water was too deep for wading. Its flesh is of a dark colour, and partakes of the odour of the food on which it subsists. This is a widely distributed species, being found upon all the shores of the European continent, as well as those of Asia and Africa. It is not very difficult to rear this bird in confinement, and it is frequently kept so, with other aquatic species, for the neatness of its form, and the well contrasted colours of its plumage. Nest, &c.

PLATE 33. Fig .1. Represents it in the summer plumage.

General
description.

Summer
plumage.

Head, neck, upper part of the breast, mantle, scapulars, lesser wing-coverts, and the front half of the tail, glossy velvet black. Under parts, lower part of the back, rump, basal part of the tail, and the transverse wing bars pure white. Quills black, with an oblong white spot occupying the centre of each feather near the tip, and the basal part of the inner web white. Bill, and circle round the eyes, orange-red. Irides crimson. Legs deep purplish-red.

Winter
plumage.

Fig. 2. In the winter plumage. Distinguished by a collar of white beneath the throat; the dark parts of the plumage not so intense, but more inclining to brownish-black, and the bill and legs of paler hue.*

The young of the year have still more brown in the dark parts, and the white is not of such unsullied purity as in the adults. The feet are livid or greyish-white, tinged with pink. The irides brown. The bill yellowish-brown, tinged with orange.

GENUS STREPSILAS, *ILLIGER*. TURNSTONE.

GENERIC CHARACTERS.

BILL as short as the head, strong, compressed, forming an elongated cone; thick at the base, and narrowing gradually to the point, which is horny and hard. Upper mandible rather longer than the lower one; the culmen flattened at the base, and rounded from thence to its extremity, which is subtruncated. Under mandible ascending.

Nostrils basal, lateral, linear, oblong, pervious, partly covered above by a membrane.

Wings long, acuminate, with the first quill-feather the longest.

Legs of mean length; the naked space above the tarsal joint small. Feet four-toed, three before and one behind; the front ones united by a short membrane at the base, and furnished with narrow lobated margins; hind toe articulated upon the tarsus, bending inwards, and touching the ground with its tip.

Plumage thick, close, and adpressed.

In the systems of LINNÆUS, LATHAM, and others, the Turnstone was arranged, along with other Scolopaceous birds, in the genus *Tringa*, although the form and structure of the bill presented characters sufficiently distinct to shew the impropriety of such a classification, without considering the difference exhibited in their respective habits. BRISSON first removed it from this situation, under the name of *Arenaria*; but as that title was appropriated to the Sanderling (*Tringa Arenaria* of LINNÆUS, now *Arenaria Calidris* of BECHSTEIN), the generic name of *Strepsilas*, bestowed by ILLIGER (and happily descriptive of a peculiar habit possessed by the only known species), has now been generally adopted. As the general economy of this bird is much more closely assimilated to that of a *Plover* than to any member of the family of the *Scolopacidae*, I have adopted Mr VIGORS's views with respect to it, and have accordingly made it a constituent member of the *Charadriadæ*.

Hitherto only one species has been discovered, but which holds a wide geographical range, being found in all the divisions of the old, as well as in the new world, and subject to a great variety of climate, during the periods of its migrations.

COMMON TURNSTONE.

STREPSILAS INTERPRES, Leach.

PLATE XXXIII. • FIG. 1, 2, and 3.

Strepsilas Interpres, Leach in Cat. Brit. Mus. p. 29.—*Steph.* Shaw's Zool. 11. 520. pl. 39.—*Flem.* Br. Anim. 1. 110. sp. 159.

Strepsilas collaris, Temm. Man. d'Ornith. 2. 553.

Tourne-Pierre à collier, Temm. Man. 2. 553.

Common Turnstone, Shaw's Zool. 11. 520. pl. 39.—*Flem.* Br. Anim. 1. 110. sp. 159.

Tringa Interpres, Linn. Syst. 1. 248. 4.—*Gmel.* Syst. 1. 671.—*Lath.* Ind. Ornith. 2. 738. sp. 45.

Arenaria, Briss. Orn. 5. 132. 1.

Morinellus marinus, Raii Syn. 112. A. 5.—*Will.* 251. t. 58.

Le Tourne-Pierre, Buff. Ois 8. 130. 10.

Le Coulond Chaud, Buff. Pl. Enl. 856.

Steindrehende Strandläufer, Bechst. Naturg. Deut. 4. 335.—*Meyer*, Tassenb. Deut. 2. 382.

Hebridal Sandpiper, Br. Zool. 2. 467. No. 200.—*Arct.* Zool. 2. No. 382.

Turnstone or Sea Dotterel, Edw. Glean. t. 141.—*Will.* (Angl.) 311.—*Lath.* Syn. 5. 188. sp. 37.—*Id.* sup. 249.—*Lewin's* Br. Birds, 5. 179.—*Mont.* Ornith. Dict. 1.—*Low's* Faun. Orcad. 87. and 850.—*Bewick's* Br. Birds, 2. 124. and 126.

Young. { *Tringa Morinella*, Linn. Syst. 1. 249. 6.—*Gmel.* Syst. 1. 671. 4. B.
Arenaria cinerea, Briss. Orn. 5. 137. No. 2. t. 11. f. 2.
 Coulond Chaud de Cayenne, et Coulond Chaud gris de Cayenne, Buff. Pl. Enl. 340. et 857.
 Turnstone or Sea Dotterel, Penn. Br. Zool. 2. No. 199.—*Lath.* Syn. 5. 190. 37. var. A.

PROVINCIAL—Skirlcrake.

Periodical
visitant.

THIS handsome bird (the only species of this genus hitherto discovered) is amongst the number of our winter visitants, making its first appearance on our shores sometimes as early as the end of August, and continuing till the spring, when it departs, about March or April, for higher northern latitudes, there to breed and pass the summer months. Dr FLEMING, in his "History of British Animals," states it as a constant resident in Zetland, having met with it at all seasons of the year. It certainly appears, at first sight, to be a contradictory circumstance, that a bird, which in Eng-

land and on the mainland of Scotland is only known as a winter visitant, should be stationary through the year in a country still farther northward. The peculiarity of climate thus indicated, is in all probability attributable to the small extent of the Shetland Isles, and the great body of water surrounding them, being thus rendered a suitable habitat at all seasons to the constitution and habits of the bird. It lives on the rocky or gravelly shores of the ocean, and is never seen upon the soft and oozy sands, frequented by the *Scolopacidae*; and is also met with, but less frequently, upon the larger rivers and lakes of the interior of Continental countries. It is seldom found associated in flocks, being either a few together (probably the brood of the preceding year) or single; and this last is generally the case with adults. It feeds on marine, coleopterous, and other insects, as well as on small bivalve molluscae and crustaceae, which it finds by turning over the stones with its bill,—an instrument most beautifully adapted for that purpose, being strong, very hard, and drawn to a fine point, and forming altogether a powerful lever. In other respects the manners of the Turnstone resemble those of the Plovers; and I have frequently found it in company with the Ring Dotterel (*Charadrius Hiaticula*), which inhabits similar shores. TEMMINCK considers this bird as subject to only one moult within the year, and that the young probably undergo three of these changes before they acquire the mature plumage. My observations, however, do not accord with this opinion, as I have frequently killed it in spring, when undergoing a change, which I considered as the assumption of what he has appropriately termed the *nuptial livery*; and at this time also, I think the young birds acquire the plumage described by him as characteristic of their completing the first year. The Turnstone is found upon most of the European shores, but is particularly abundant in Norway, and on the coasts of the Baltic. In Africa it is met with in Senegal, at the Cape of Good Hope, and several other parts. Its distribu-

Food.

tion through Asia is equally extensive; and the species from the American continent is in every respect similar to our own. It thus embraces a geographical range, known to few others, but which tends to confirm an observation advanced, viz. that the distribution of species seems to be more or less extended, in an inverse proportion, to the number each genus contains.—This bird breeds (as before mentioned) in the higher latitudes; and, for a nest, merely scrapes a small hole in the gravel, there depositing its eggs, four in number, of an oil-green or yellowish-grey colour, blotched and spotted with brown. Captain SABINE mentions it as breeding in the North Georgian Islands.—Its flight is very similar to that of the Dotterel and Ring Plover, and it frequently utters, when on wing, a short whistling note. It runs swiftly, and is a brisk and lively bird.

PLATE 33.* Fig. 1. Represents the male in mature plumage.

General
description.
Mature
plumage.

Forehead, eyebrows, oval space between the bill and eyes, throat, nape and hind part of the neck white. Crown of the head black, the feathers being margined with yellowish-white. From the base of the under mandible, on each side, proceeds a band of black which surrounds the eyes, and, passing down the sides of the neck, joins the large gorget of black that occupies the lower part of the neck and upper part of the breast. Mantle and scapulars reddish-brown, irregularly varied with black. Lower part of the back, and upper tail-coverts, white. Rump black. Lateral tail-feathers white, the central ones black. Quills having their outer webs black, the basal parts of the inner webs and the shafts white. Secondaries having broad white tips, forming a distinct bar across the wings. Belly, abdomen, vent, and under tail-coverts pure white. Legs and toes orpiment-orange, with the joints darker. Bill black.

Fig. 2. Is the female, resembling the male bird, except that the colours are not so distinct or bright, and the white on the head and neck less pure.

Fig. 3. The young of the year.

Young of
the year.

In this state the cheeks and throat are white. Head and neck hair-brown, with darker variegations. Collar and gorget black, edged with greyish-white. Back and scapulars hair-brown, glossed with olive-green, each feather having its tip black, margined with yellowish-white. Outer tail-feather white, with a large black spot near the tip, the rest tipped with white. Legs honey-yellow. It is frequently met with in an intermediate state, with more or less of the reddish-brown; and the collar, eye-patch, &c. less marked and distinct than in the adult bird.

GENUS ARENARIA, BECHST. SANDERLING.

GENERIC CHARACTERS.

BILL as long as the head, strait, slender, semi-flexible, compressed at the base, with the tip dilated and smooth.

Nostrils lateral, basal, narrow, longitudinally cleft in the nasal furrow, which extends to the *dertrum* or nail of the bill.

Wings of mean length, acuminate, with the first quill-feather the longest.

Legs slender, of mean length, naked above the tarsal joint. Feet three-toed, all the toes directed forwards, with a very small connecting membrane at their base.

By LINNÆUS the Sanderling was at first arranged with the *Tringas*, but afterwards transferred to the genus *Charadrius*, in which it was retained by GMELIN and LATHAM.

Subsequent authors, however, very properly separated it from the *true* Plovers (as the form of its bill was plainly incompatible with such an arrangement), and made it the type of a separate genus, named, by BECHSTEIN and MEYER, *Arenaria*, and by ILLIGER *Calidris*. In the form of its feet and general habits we trace its affinity to the typical *Charadriadae*, so that its situation in this *Family* is distinctly marked. At the same time, the connexion of this bird with the *Scolopacidae* is supported by the structure of its bill, which strongly resembles that of the genus *Tringa*; and it thus becomes one of those essential links, as it were, that so beautifully unite the groups of the different families throughout the whole feathered tribe.

The Sanderling is as yet the only species of its genus. Its geographical range is extensive, being found, during its periodical migrations, in all quarters of the globe. It is subject to the double moult, and the change from the winter to the summer plumage is very distinct.

COMMON SANDERLING.

ARENARIA CALIDRIS, Meyer.

PLATE XXXVI. FIGS. 1 & 2.

Arenaria Calidris, Meyer, Tasschenb. Deut. 7. 48. pl. 55. f. 4.

Arenaria vulgaris, Steph. Shaw's Zool. 11. 490. pl. 35.

Calidris arenaria, Leach's Cat. Br. Mus. p. 28.—Flem. Brit. Anim. 1. 112. sp. 162.

Sanderling variable, Temm. Man. d'Ornith. 2. 524.

Common Sanderling, Shaw's Zool. 11. 490. pl. 35. winter plumage.—Flem. Br. Anim. 1. 112. 162.

Tringa arenaria, Linn. Syst. 1. 255. 9.—Raii Syn. 109. A. 11.—Gmel. Syst. 1. 680.

Charadrius grisea minor, Briss. Ornith. 5. 636. 17. t. 20. f. 2.

Le Sanderling, Buff. Ois. 7. 532.

Charadrius Calidris, Linn. Syst. 1. 255. 9.—Gmel. Syst. 1. 689.—Lath. Ind. Ornith. 2. 741. sp. 4.

Arenaria vulgaris, Bechst. Tasschenb. Deut. 2. 462.

Sanderling, or Curwillet, Penn. Br. Zool. 2. 480. No. 212. pl. 73.—Arct.

Zool. 2. 403.—Will. (Angl.) 303.—Lath. Syn. Sup. 5. 197.—Id. Sup.

253.—Lath. Syn. Sup. 2. 315.—Bewick's Br. Birds, 2. t. p. 1.—Pult.

Cat. Dorset. 16.—Mont. Ornith. Dict. 2.—Id. Sup.—Wils. Amer. Orn.

7. 68. pl. 59. fig. 4.

Winter
plumage,
and young.

Charadrius rubidus, *Gmel. Syst.* 1. 688.—*Lath. Ind. Ornith.* 2. 740. sp. 2. } Summer
 —*Wils. Amer. Ornith.* 7. 129. pl. 63. fig. 3. } Plumage.
Ruddy Plover, *Penn. Arct. Zool.* 2. 404.—*Lath. Syn.* 5. 195. 2.—*Wils.*
Amer. Ornith. 7. 129. pl. 63. fig. 3.

PROVINCIAL.—Curwillet, Towilly.

THIS active little bird is a visitant to our shores during the winter season, being one of the various species whose polar migration extends far within the arctic circle. Its residence in those dreary northern climes appears, however, to be confined to little beyond the time necessarily occupied by the duties attendant on reproduction, as it is seen on our coast sometimes as early as the month of August, at which time I have killed several individuals upon the Northumbrian strand. These have generally been the young of the year, and are probably stragglers from flocks of the earliest broods, whose destination is pointed to more southern latitudes; as the great body, that resorts to our shores, and those of the opposite continent, seldom arrives before the middle of September. Upon their first appearance, we find few of them possessing the complete winter plumage, bearing still strong indications of their summer clothing, varied, of course, according to the advance in winter dress of each individual, and presenting much diversity of appearance. The change, however, goes rapidly on, and, in October, they are perfectly clad in the plain garb that distinguishes them till the approach of spring, when it gives place to a gayer and more attractive suit, appropriately styled by TEMMINCK, "*Plumage des Noces*." This bird lives on the sandy shores of the ocean, but does not frequent those of an oozy or sliny nature; in habits it strongly resembles the smaller species of *Charadrius*, and sometimes associates with *Charadrius hiaticula*. It runs very swiftly, and its flight is strong and rapid. It feeds on the smaller marine coleopterous insects and minute worms and larvæ, which it finds on the beach. The distribution of the species, during its migrations, is widely spread, as it has been met with throughout the greater part

Periodical
visitant.

Food.

Nest, &c. of Europe and Asia, and also in North America.—Its nest and eggs remain yet undescribed, though it is known to retire to the arctic regions during the summer months, for the purpose of incubation. Dr FLEMING has suggested, that, in all probability, it may occasionally breed in Great Britain, as it has been observed in the Mull of Cantyre as late as on the 2d of June (Linn. Transac. vol. viii. p. 268,); no discovery of such a fact, however, having come within my knowledge, even after diligent inquiry, it may be presumed that such instances of late appearance have arisen from some injury sustained by the individuals thus seen; although it may be remarked, that even after the period above mentioned, sufficient time would still remain to enable the birds to reach the nearest breeding station, and rear their young, before the close of the polar summer compelled them to remigrate to more southern latitudes.

PLATE 36. Fig. 1. represents the Sanderling in the winter plumage.

General
description.

Winter
plumage.

Front, throat, sides of the neck, and the whole of the under parts, pure white. Crown, nape of the neck, back, and scapulars, ash-grey, the shafts of the feathers being blackish-brown. Secondary quills hair-brown, with broad white tips, forming a bar across the wings. Greater quills having their outer webs deep hair-brown, and their shafts white. Tail cuneated; the middle feathers hair-brown, margined with white; the outer ones greyish-white. Elbow of the wings deep hair-brown. Bill and legs black.

Fig. 2. In the summer or nuptial dress.

Summer
plumage.

Crown of the head, and forehead, black; the feathers being margined with pale reddish-brown and white. Throat, neck, and breast, a mixture of reddish-brown, ash-grey, and brownish-black. Back and scapulars reddish-brown, with large irregular patches and spots of black. Greater coverts blackish-brown, margined and

tipped with white; and forming a bar across the wings. Quills brownish-black.

In the first, or nestling plumage, the forehead, eye-streak, cheeks, and throat, are white. At the lower part of the neck is a zone of pale cream or yellowish-white, which passes into light ash-grey upon the upper part of the breast. Under parts of the body white. Crown of the head black, margined and spotted with pale buff. Nape and hind part of the neck pale ash-grey, with darker streaks. Mantle and scapulars black, margined and spotted with white. Tertiaries hair-brown, margined with greyish-white. Quills and tail as in the winter plumage of the adult bird. Legs deep grey. Young.

GENUS GLAREOLA. PRATINCOLE.

GENERIC CHARACTERS.

Bill short, hard, bulging at the base, convex, and curved for upwards of half its length, compressed towards the point; gape wide, the commissure extending as far as the anterior angle of the eye; edges of the under mandible bending inwards, and covered by those of the upper, whose curvature they follow. Nostrils basal, lateral, and obliquely cleft.

Legs of mean length, slender; with part of the tibiæ immediately above the tarsal joint naked. Feet four-toed; three before and one behind; the outer united at its base to the middle one by a membrane; the inner toe free. Claws rather long, nearly straight, truncated; that of the middle toe imperfectly pectinated.

Wings very long; the first quill-feather being the longest. Tail more or less forked.

The members of this genus are inhabitants of the temperate and warmer climates of the ancient world. They fre-

quent the margins of lakes and rivers, as well as marshes of the interior of the country, feeding chiefly upon the insects that such situations abundantly afford, and which they take both on wing and on the ground, where the birds can run very swiftly. Their flight, from the great length of wing, and forked shape of the tail, is also extremely rapid. Their moult is said to be double, but there is no abrupt or very marked change of colour between the winter and spring plumage, the variation principally consists in an additional brilliancy and depth of tint. By LINNÆUS, who, with respect to this group, appears to have mistaken *similitude* for *affinity*, the Glareoles were placed amongst his Hirudines; in which error he has been followed by many subsequent compilers. In the "Index Ornithologicus" of LATHAM, we find the genus *Glarcola* standing next to *Rallus*; CUVIER, also, in his "Regne Animal," placed it at the extremity of his family of *Macrodictyles*, but as a group which he found it difficult to reconcile in character with the others. In the first edition of the "Land Birds" of this work, in which the systematic arrangement of TEMMINCK was chiefly adopted, (the publication of it having been previous to the introduction of the *natural* system, or that founded upon the true affinities connecting the various orders and families), the *Glarcola* was given as a member of the *Alectoridæ*; an order framed by TEMMINCK for the reception of a few genera, whose affinities he had not accurately traced, or which, upon investigation, he could not readily arrange with his other systematic divisions. These are now more appropriately transferred to the stations they should occupy according to their affinities; and it is upon the connexion which may be traced with the other members of the family of *Charadriadæ*, that the genus *Glarcola* now becomes included in that family.

tending to elucidate the manners of the species, I quote them from the description he has given in the Transactions of the Linnean Society. "When I first discovered it, it rose within a few feet, and flew round me in the manner of a Swallow, and then alighted close to the head of a cow that was tethered within ten yards distance. After examining it a few minutes, I returned to the house of T. EDMONDSONE, Esq. for my gun, and, accompanied by that gentleman's brother, went in search of it. After a short time, it came out of some growing corn, and was catching insects at the time I fired, and, being only wounded in the wing, we had an opportunity of examining it alive. In the form of its bill, wings, and tail, as well as its mode of flight, it greatly resembles the genus *Hirundo*; but, contrary to the whole of this family, the legs were long, and bare above the knee, agreeing with *Tringa*; and, like the Sandpipers, it ran with the greatest rapidity when on the ground, or in shallow water, in pursuit of its food, which was wholly of flies, and of which its stomach was full." In the above description we recognise nothing that allies this bird to the *Hirundinidae*, beyond certain peculiarities possessed to an equal extent by some of the *Terns* (of the family of the *Laridae*, and the order *Natatores*), as well as by birds of other families and orders, viz. a full development of the wings and tail for the purposes of flight, which mere external resemblances will not imply any real affinity existing; on the other hand, its manners and anatomy point out the true situation it holds in the natural system.—The Pratincole inhabits the borders of lakes, rivers, and inland seas, particularly such as form extensive marshes covered with reeds, and other aquatic herbage. In Hungary, it abounds on the marshy confines of the lakes Neusidel and Baladon, where it was seen by TEMMINCK in flocks of hundreds together; and it is also met with in some provinces of Germany and France, as well as in Switzerland and Italy, but in these latter countries only as a bird of passage, or rather perhaps as an occasional visitant. In Tartary, and

the central parts of Asia, it is common, and indeed its geographical distribution seems to be very extensive, as might naturally be expected from its great power of flight. It feeds on flies, beetles, worms, and other aquatic insects, taken (as before noticed) either on wing or the ground, where it runs with great swiftness.—Its flight is singularly rapid, surpassing perhaps even that of any of the Swallow tribe.—Its nest is formed amongst the rushes, and the thick herbage of its above mentioned localities, and it lays several eggs, of which the colour has not been noticed by any author. This bird, from the change of plumage it undergoes at different seasons, and also attendant upon age, has been multiplied by some writers into three or four species, but which are clearly referable to the single one now under consideration. Two species, distinct from the present one, are, however, given by TEMMINCK, as found on the Asiatic Continent and in New Holland, but never met with in Europe, viz. *Glareola Grallaria* and *Glareola lactea*, and which are figured in the “Planches Coloriées” of the same author.

Food.

Nest, &c.

PART I. PLATE 63. Represents this bird of the natural size.

Head, nape of the neck, back, scapulars, and wing-coverts, yellowish-brown, inclining to wood-brown, with a metallic lustre. **Throat,** and fore part of the neck reddish-white, bounded by a narrow list of black, which proceeds upwards and joins a black streak between the bill and the eyes. **Breast** pale wood-brown; **abdomen** and **vent** white. **Upper tail-coverts** white. **Tail** much forked, having the basal half of its feathers white, the rest blackish-brown. **Under wing-coverts** brownish-red. **Quills** blackish-brown. **Edges** of the bill, and **base** of the lower mandible bright scarlet-orange. **Legs** brownish-purple red. **Irides** light reddish-brown.

General description.

GENUS CURSORIUS, LATH. SWIFTFOOT.

GENERIC CHARACTERS.

Bill as short or shorter than the head, depressed at the base, curved towards the end, and pointed. Tomia of the under mandible covered by those of the upper one, and following its curve.

Nostrils basal, lateral, oval, and surrounded by a small protuberance.

Wings of mean length, having the first quill-feather nearly equal to the second, which is the longest.

Legs long, slender, with the tibiae naked for a considerable space above the tarsal joint. Feet three-toed; toes all directed forwards, short, and united at their base by a membrane. Naked part of the tibiae, front of the tarsus, and upper part of the toes scutellated. In nails, that of the middle toe broad, with its inner margin pectinated.

The genus *Cursorius* was established by LATHAM, for the reception of the two species then known, and which had been included by GMELIN in the genus *Charadrius* of LINNÆUS, notwithstanding they exhibited well-marked characters peculiar to themselves. TEMMINCK adopted LATHAM's title, but transferred the genus from its situation, adjoining to the Plovers, to his order *Cursorius*; which nearly answers to the family of *Struthionida*, in the *rasorial* order of the present system. This arrangement was also adopted in the volume of letter-press that accompanied the first series of the "Illustrations of British Ornithology;" but as subsequent investigation into the affinities of the genus seems confirmative of the correctness of the opinion of Mr VIGORS, with respect to the situation it holds in the natural arrangement, I have again placed it amongst the *Charadriada*, in the order

Grallatores, as being still more closely allied to the typical members of that family, than to the Bustards, or other genera of the *Struthionidae*. In addition to the two species above alluded to, three others have been discovered, which are beautifully displayed in the "Planches Coloriées." These birds are all natives of the ancient continent, inhabiting the sandy deserts of Asia and Africa. Of their habits and other peculiarities not much is known, but such information as we possess tends to confirm the propriety of their position between the other genera of the present family, and the smaller members of the *Struthionidae*. They run with surprising speed, and their flight, from the full development of their wings, is swift and powerful.

CREAM-COLOURED SWIFTFOOT†.

Cursorius Isabellinus, Meyer.

PLATE XXXIII *.

Cursorius Isabellinus, Meyer, Tasschenb. Deut. 2. 328.—Temm. Man. d'Ornith. 2. 513.—Steph. Shaw's Zool. 11. 500. pl. 37.

Cursorius Europæus, Lath. Ind. Ornith. 2. 751. 1.

Charadrius Gallicus, Gmel. Syst. 1. 692.

Le Court-vite, Buff. Ois. 8. 128.—Id. Pl. Enl. 795.—Lesson. 2. 203.

Court-vite Isabelle, Temm. Man. d'Ornith. 2. 513.

Cream-coloured Plover, Lath. Syn. 5. 217. 25.—Id. Sup. 254. t. 116.—

—Lewin's Br. Birds, 5. pl. 187.—Walc. Syn. 2. pl. 164.—Mont. Ornith. Dict. 2.—Id. Sup.

Cream-coloured Coursery, Steph. Shaw's Zool. 11. 500. pl. 37. an ill-drawn figure.

SINCE the publication of the First Part of the present work, an instance has fortunately occurred of the Cream-coloured Swiftfoot having been killed near Timberwood Hill, in Charwood Forest, Leicestershire, in October 1827.

† I have to offer a similar apology to my readers for the transfer of this bird, from the *First* to the *Second* Part of these "Illustrations," that I have already made in the preceding note (on the *Collared Pratincole*), with this fortunate exception, that the *representation* of the Swiftfoot will be found in its proper place (in Part Second of the Plates); as an accompanying figure was not given in Part First.

Very rare
visitant.

This beautiful specimen, now in the possession of the Rev. T. GISBORNE, of Yoxall Lodge, Staffordshire, was kindly lent to me for the purpose of enriching these "Illustrations ;" and I have thus been enabled to give a correct figure of this bird in the Second Series, in the situation that it properly holds in the systematic arrangement now adopted. It is one of our rarest visitants, the above being, as far as I can collect, the third instance only of its appearance in Britain. Of the two prior specimens, one was shot in Kent, near the seat of WILLIAM HAMMOND, Esq. and was sent to Dr LATHAM *; and, as the following account which accompanied it is particularly interesting, as being descriptive of its manners, I make no apology for transcribing it :—" It was first met with running upon some light land, and so little fearful was it, that, after having sent for a gun, one was brought to him, which did not readily go off, having been charged some time, and in consequence missed his aim. The report frightened the bird away, but, after making a turn or two, it again settled within a hundred yards of him, when he was prepared with a second shot, which dispatched it. It was observed to run with incredible swiftness, and at intervals to *pick up* something from the ground, and was so bold as to render it difficult to make it rise from the ground, in order to take a more secure aim on the wing. The note was not like any kind of Plovers, nor indeed to be compared with that of any known bird." The other specimen is mentioned by MONTAGU, as having been killed in Wales, and was afterwards in the collection of the late Professor SIRTHORP, of Oxford. Africa is the native region of this species, particularly the northern and western parts of that secluded country, where it inhabits the extensive plains of the desert. In Europe, even its appearance is of the rarest occurrence, as there are only two

* This specimen found its way into the Leverian Museum, at the sale of which it was purchased by FICHTEL, who afterwards disposed of it to DONOVAN for the sum of eighty-three guineas. It is now deposited in the British Museum.

other instances of its capture in this division of the world, viz. one in France, and the other in Austria. On this account the specific name of *Isabellinus*, given to it by MEYER, has been preferred to that of *Europæus*, so inadvertently imposed by LATHAM. Nothing is yet known respecting its particular habits, its food, or the propagation of the species.

PLATE 33 ** represents this bird of the natural size, from the specimen above alluded to.

Bill three quarters of an inch long, black, and arched towards the tip. Irides pale yellowish-grey. Forehead and crown of the head pale buff-orange, passing towards the occiput into ash-grey, below which backwards is a triangular spot of black. Over each eye, and passing round the hind part of the head (below the black spot), is a band of pure white. From the posterior angle of the eye is a streak of black. Throat and chin pale reddish-white. The whole of the body sienna-yellow, tinged with ash-grey, palest beneath. Greater quills brownish-black; outer tail-feathers having a small dusky spot near their tips. Legs long, with the tibiæ naked for an inch above the tarsal joint. Toes short; the outer united to the middle toe by a rather broad membrane, the *inner* toe by a smaller one. Claw of the middle toe pectinated; a peculiarity belonging also to all the other species.

General
description.

GENUS VANELLUS, BRISS. LAPWING.

GENERIC CHARACTERS.

Bill shorter than the head, strait, slightly compressed; the points of both mandibles horny and hard, rather swollen and convex, the edges bent inwards; nasal groove wide, and reaching as far as the horny tip. The part of the culmen that divides the nostrils lower than the tip of the bill. Tomia of both mandibles, as far as the tip, equal.

Nostrils basal, lateral, linear, pierced in the membrane of the nasal groove.

Legs slender, with the lower part of the tibiæ naked; feet four-toed, three before and one behind, united at the base by a membrane; that portion of it between the outer and middle toe being the largest. Hind toe very short, articulated upon the tarsus, and not reaching to the ground. Tarsi reticulated; nails falcate; the inner edge of the middle one flattened and expanded.

Wings ample, tuberculated or spurred; the three first quill feathers notched, or suddenly narrowing towards their tips, and shorter than the fourth and fifth, which are the longest in each wing. Plumage thick, soft, rather open in texture, with more or less of a metallic gloss.

The members of this genus, of which the Crested Lapwing (*Vanellus cristatus*) may be considered the type, are nearly allied in the form of the bill, and in their habits, to the genera *Charadrius* and *Pluvianus*, but differ from them in having a small hind toe, which feature brings them into connexion with other four-toed groups of the order *Grallatores*. By LINNÆUS, LATHAM, and other authors, they were, on account of this hind toe, placed in the genus *Tringa*, to the members of which they only bear a distant alliance; their true affinity with the other groups of the *Charadriadæ* being distinctly shewn, both from their anatomy and habits. The Lapwings have the forepart or elbow of the wing armed with a spur; in some species short and blunt, in others long and pointed. The head is also generally furnished with peculiar appendages; in the European species, in the form of a long singularly shaped crest; in other species appearing as wattles, or fleshy protuberances, about the bill and eyes. They are the inhabitants of open ground and plains, particularly where the soil is of a moist nature; feeding on worms, insects, larvæ, &c. They are subject to the double moult; but their vernal change of plumage is not attended with any remarkable difference of colour.

CRESTED OR GREEN LAPWING.

VANELLUS CRISTATUS, Meyer.

PLATE XXXIV.

- Vanellus cristatus*, *Flem.* Br. Anim. 1. 111. sp. 160.
Vanellus gavia, *Steph.* Shaw's Zool. 11. 509. pl. 38.—*Leach*, Cat. Br. Mus. p. 29.
Tringa Vanellus, *Linn.* Syst. 1. 248. 2.—*Gmel.* Syst. 1. 670.—*Raii* Syn. 110. A. 1.—*Will.* 228. t. 57.—*Briss.* Orn. 5. 94. 1. t. 8. f. 1.—*Lath.* Ind. Orn. 2. 726. sp. 2.
Charadrius Vanellus, *Wagler*, Syst. Av. 1.
Le Vanneau, *Buff.* Ois. 8. 48. pl. 4.—*Id.* Pl. Enl. 242.
Vanneau huppé, *Ternm.* Man. d'Ornith. 2. 550.
Gehäubte Kiebitz, *Bechst.* Naturg. Deut. 4. 346.
Lapwing, or *Bastard Plover*, *Penn.* Br. Zool. 2. 453. No. 190.—*Aret.* Zool. 2. 480. D.—*Will.* 307. pl. 57.—*Albin's* Br. Birds, 1. pl. 74.—*Levin's* Br. Birds, 5. pl. 167.—*Pull.* Cat. Dorset. p. 15.—*Lath.* Syn. 5. 161.—*Bewick's* Br. Birds, Ed. 1826, 2. p. t. 79.—*Mont.* Ornith. Dict. 1. —*Loe's* Faun. Orcad. p. 84.
Crested Lapwing, *Shaw's* Zool. 11. 509. pl. 38.—*Flem.* Br. Anim. 1. 111. sp. 160.

By its common appellation of *Pewit*, this bird is well known throughout Britain, where it is very abundant during the summer or breeding season, and is then found in almost every situation, from the upland dry or marshy moors, to the pasture and fallow grounds of the lower districts. In these various localities, after making a slight depression in the ground, which it lines with a few broken straws or dry stalks of grass, it deposits *four* eggs, like most of the vermivorous *Grallatores*. They are of a deep oil-green colour, blotched and irregularly marked with brownish-black, and are brought in great numbers to the London market, where, as an article of luxury for the table, they always command a good price. On this account they are eagerly sought for in all the districts where these birds are numerous, and the open and extensive fields, as well as the rabbit warrens of Norfolk, with the fenny parts of Lincolnshire and Cambridge, furnish a principal part of the supply. The trade

of collecting them continues for about two months, and great expertness in the discovery of the nests is shewn by those accustomed to it ; generally judging of their situation by the conduct of the female birds, who invariably, upon being disturbed, run from the eggs, and then fly near to the ground for a short distance, without uttering any alarm-cry. The males, on the contrary, are very clamorous, and fly round the intruder, endeavouring, by various instinctive arts, to divert his attention.—The young, when hatched, are covered with down of an ochreous yellow, mixed with brown : they are assiduously attended by the parents, who lead them to the softer parts of the soil, where food is more abundantly obtained. At this interesting period, when engaged in their parental duties, these birds must have attracted the attention of most persons, from the extreme anxiety they display, and the devices they practise, in order to draw off either man or dog from the vicinity of their callow brood. After the young are fully grown, and able to fly, they assemble in large flocks ; gradually, as autumn approaches, deserting the interior of the country, and moving nearer to the coast. Here they chiefly frequent the fallow grounds and turnip fields, remaining (with allusion to the northern counties) till November, or even later, should the weather continue mild or open ; but, in case of severe frost, most of them retire, and pass the rest of the winter farther to the southward. In Northumberland they re-appear, towards the end of February or the beginning of March, in small flocks ; from which, having separated and paired, they spread themselves over the face of the country. At this season their flight (particularly that of the male birds) is very peculiar, being subject to a variety of evolutions, in the course of which they frequently dart perpendicularly upwards to a considerable height, then throwing a summerset, as it would seem, in the air, suddenly descend almost to the ground, along which they course with many turnings and great velocity, till the same manœuvre is repeated. These movements are attended by a loud hissing

noise of the wings, arising from their rapid motion, aided by the peculiar form of them, which offers a broken resistance to the air. During these aerial exercises, which are supported for a long time without intermission, they utter a variety of notes, very different in tone and expression from the monotonous cry of alarm, that has conferred on them their provincial appellation of Pewit, or *Pces-weep*. This species is very widely dispersed, being found throughout all the divisions of the ancient continent. Specimens that I have received from China are precisely similar to our own birds; they are in the winter plumage, and most of them seem to be the young of the year. In Holland the Lapwing is remarkably abundant. Its flesh, in autumn and winter, is juicy and sweet*, not yielding in flavour to that of the Golden Plover, or indeed to any of this tribe, but becomes, in the summer season, dry and unpalatable.—It feeds principally on earth-worms, in obtaining which it displays great ingenuity. “I have seen,” says Dr LATHAM, “this bird approach a worm-cast, turn it aside, and, after walking two or three times about it, by way of giving motion to the ground, the worm come out, and the watchful bird, seizing hold of it, draw it forth.” It also devours slugs, insects, larvæ, &c., on which account it is frequently kept in gardens; but, when thus domesticated, it requires to be fed and protected during the severity of winter, as it is, in such situations, unable to obtain a sufficient supply of its native food. An interesting anecdote, shewing the degree of domestication to which this bird may be brought, is related by BEWICK, but as the extract would be long, I must refer my

Food.

* On this account, as well as from their abundance, and their having so long a crest, or *aigrette*, I am led to think that the birds mentioned by IRLAND, under the name of *Egrets*, as having been served up at the famous feast of Archbishop NEVIL, to the number of one thousand, were Lapwings, and not that species of Heron, now known under the title of the Little Egret, which, from the works of our earlier naturalists, appears to have been if not an unknown, at least a rare species in Britain.

readers to the original work. The plumage of the Lapwing is rich, and the colours well contrasted, and it is of very sprightly appearance. It runs swiftly, during which it has a singular habit of stopping suddenly at intervals, and putting its bill to the ground, but without picking up any thing, apparently to bring its body, as it were, to a proper equipoise.

PLATE 34. represents the male and female in summer plumage.

General
description.

Bill black. Forehead, crown, chin, and gorget, shining greenish-black. Occipital crest composed of long slender black feathers, turning slightly upwards. From the corners of the under mandible runs a black streak, passing under the eyes to the nape of the neck. Region of the eyes, nape, and sides of the neck, pure white. Back, scapulars, and tertials, pale glossy olive-green; the latter being tinged with purplish-red. Wing-coverts deep olive-green, glossed with blue and purplish red. Wings much rounded; the quills black, with the tips of the first four dirty white. Lower part of the back clove-brown, glossed with green. Upper tail coverts orange-brown; the lower ones paler. Tail having the basal half of the feathers white; the rest black, with white tips; except the outermost feather, which is entirely white. Belly and abdomen pure white. Legs brownish-purple red.

In winter the throat and chin are white; the feathers of the upper part of the plumage margined with reddish-white, and with less of the gloss, and reddish-purple tints. The young have the occipital crest very short; the face and neck white, speckled with brown; and the feathers of the back and scapulars more deeply margined with pale ochreous yellow. Legs and toes grey, with a pink tinge.

GENUS SQUATAROLA, *Cuv.* BASTARD PLOVER*.

GENERIC CHARACTERS.

Bill rather strong, cylindrical, strait, nearly as long as the head; the tip, or horny part, about half the length of the whole bill, tumid, and arched, with the tomia bending inwards. Nasal groove wide; half the length of the bill. Mesorhinium depressed below the level of the tip. Nostrils longitudinally pierced in the membrane of the groove, linear oblong.

Wings rather long, acuminate; with the first quill-feather the longest.

Legs slender, of mean length, naked above the tarsal joint. Feet four-toed, three before and one behind; front toes joined at their base by a membrane, that portion of it between the outer and middle toe being the longest. Hind toe very small, or rudimental. Tarsi reticulated.

Plumage thick, close, and adpressed.

The Bastard Plover, like the Lapwings, was placed in the genus *Tringa* by some of the earliest systematists†, on account of its being furnished with a very minute hind toe. It was afterwards placed by TEMMINCK, BECHSTEIN, &c., with the Lapwings in the genus *Vanellus*, but as forming a separate section, on account of the different character exhibited in the form of the wings. Instead of adopting

* I have considered it most advisable not to let *generic* distinction (however necessary) interfere with the English name of *Plover*, so long attached to this species; as my ambition has been, in the letter-press of the present work, to construct a *popular manual* of British Ornithology.

† RAY and WILLOUGHBY, however, seem to have known its proper situation, having placed it between the Lapwing and Golden Plover, exactly where it now stands in the natural arrangement.

this sectional division, CUVIER and other naturalists made it the type of a genus, of which it was then supposed to be the only species; a second, however, has been since discovered in the southern hemisphere, specimens of which were brought by Captain P. P. KING, R. N., from the Straits of Magellan. This latter species has been figured in the "Illustrations of Ornithology," under the title of *Squatarola cincta*. In form and general appearance these birds are very similar to the true Plovers (or genus *Charadrius*), and, indeed, are only to be distinguished by a stronger bill, and by the small hind toe, which the Plovers totally want. This character brings them into direct contiguity with the Lapwings, and they thus hold an intermediate station, forming the connecting link between the genera *Vanellus* and *Charadrius*. Their manners are also very similar, and they subsist on the same food, viz. earth-worms, slugs, insects, and larvæ. They are subject to the double moult, and that of the European species, in almost every respect, resembles the analogous change in *Charadrius Pluvialis*; whilst that of the exotic species is very much like to *Charadrius Morinellus*. They inhabit the borders of rivers, plains, and marshy tracts, as well as the shores of the ocean, where they generally pass the greater portion of the winter. In Europe they are migratory, retiring in spring from the temperate parts to regions within the arctic circle to breed.

BASTARD OR GREY PLOVER.

SQUATAROLA CINEREA, Cuv.

PLATE XXXV. Figs. 1, 2.

- Squatarola cinerea*, Cuv. Reg. Anim. 1. 467.—*Leach*, Cat. Br. Mus. p. 29.
 —*Shaw's Zool.* 11. 505.—*Flem. Br. Anim.* 1. 111. sp. 161.
Vanellus melanogaster, *Bechst.* Naturg. Deut. 4. 356.
Charadrius hypomelas, *Wagler*, Syst. Av. 1. sp. 43.
Vanneau Pluvier, *Temm.* Man. d'Ornith. 2. 547.—*Lesson*, Man. 2. 308.
 Schwartzbauchiger Kiebitz, *Meyer*, Vog. Deutsch. 2. Heft 22.
 Grey Squatarole, *Shaw's Zool.* 11. 505.—*Flem. Br. Anim.* 1. 111. sp. 161.
 Grey Lapwing, *Rennie's* Ed. Mont. Ornith. Dict.
Tringa Squatarola, *Linn.* Syst. 1. 252. 23.—*Gmel.* Syst. 1. 682 — *Lath.*
 Ind. Orn. 2. 729. sp. 11.
Vanellus griseus, *Briss.* 5. 100. 2. t. 9. f. 1.
Pluvialis cinerea, *Raii* Syn. 111. A. 3.—*Will.* 22. pl. 57.
Vanneau Pluvier, *Buff.* Ois. 8. 68. Pl. Enl. 854.
 Grey Plover, *Albin.* 1. t. 76.—*Will.* (Angl.) 309. t. 57.—*Bewick's* Br.
 Birds, Ed. 1826, pl. t. 83.
 Grey Sandpiper, *Br. Zool.* 2. 456. No. 191.—*Arct. Zool.* 2. 393.—*Lath.*
 Syn. 5. 168. 11.—*Id.* Sup. 248.—*Lewin's* Br. Birds, 5. pl. 169.—*Walc.*
 Syn. 146. pl. 2.—*Pull.* Cat. Dorset. 15.—*Mont.* Ornith. Dict. 2.—*Id.*
 Sup.
Tringa Helvetica, *Linn.* Syst. 1. 250. 12.—*Gmel.* Syst. 1. 676.—*Lath.*
 Ind. Orn. 2. 718. sp. 10.
Vanellus Helveticus, *Briss.* Orn. 5. 106. 4. t. 10. f. 1.
Charadrius hypomelas, *Pall.* Reise, 3. 699. No. 28.
Vanneau de Suisse, *Buff.* Ois. 8. 60.—*Id.* Pl. Enl. 853.
 Swiss Sandpiper, *Penn.* Arct. Zool. 2. No. 396.—*Lath.* Syn. 5. 167. 10.—
 Id. Sup. 248.
Tringa varia, *Linn.* Syst. 1. 252. 21.—*Gmel.* Syst. 1. 682.
Vanellus varius, *Briss.* 5. 103. t. 10. f. 1.
Vanneau varié, *Buff.* Pl. Enl. 923.

Winter
plumage.

Summer
plumage.

Young.

THE Grey Plover is not a numerous species in Britain, and, indeed, in many parts, its appearance seems almost limited to the period of its migrations, that is, when passing in autumn to its winter quarters, and in spring on its return to the colder regions of the north. In Northumberland there are a few stations on the coast, where it is found during the whole winter, but only in families or small flocks. It generally arrives about the middle of September (sometimes even earlier), at which time several of the old birds still retain a

part of their summer plumage, and the breast is seen beautifully spotted with black, and in which state it is also found in spring, when beginning to assume the nuptial dress. These feathers rapidly give place to others of a different colour, and early in October the winter plumage is completed. Since the study of natural history became so prevalent, ornithological specimens have acquired a proportionate value; and, in consequence, a keener look-out is now kept by the regular shooters of wild-fowl. To this must be attributed the supply of these birds sent from Norfolk, and other parts of the eastern coast, in the month of May, while on their passage to the north. At this season they have all commenced the change of plumage, and are killed in various stages of its progress, some few nearly in the perfect garb, and answering to the description of the *Tringa Helvetica* of authors. In its form and appearance, as well as in the disposition of its colours (in all its states of plumage), the present species very closely resembles the Golden Plover (*Charadrius Pluvialis*), and, except upon strict examination, may be very readily confounded with it. It is, however, rather superior in size, and in possessing a hind toe (or rather *claw*), as well as in the long *black* under coverts of the wings, furnishes constant and sufficient marks of distinction. Its bill, upon comparison, will also be found much stronger than either that of the Plover or Lapwing, approaching closely in form to that of the genus *Ædicnemus*. On our coast it is found in oozy bays, or at the mouths of rivers, where it

Food. feeds upon worms, marine insects, &c. It runs with agility, and utters a piping whistle, similar to, but not quite so shrill as, that of the Golden Plover. Its flesh is tender and well flavoured, and in high esteem for the table. The species is widely distributed, being found throughout the temperate and colder parts of all the northern hemisphere, in Europe. it is common in Russia; also in France and Switzerland during the times of its migrations; upon the coasts of Holland it is a regular periodical visitant, and, according to

TEMMINCK, a few annually breed upon the northern islands of that kingdom*. It is met with in Egypt, and upon the confines of Asia, in Siberia, &c. The only nest it makes is Nest, &c. a small depression in the ground, lined with a few straws or stems of grass; in which it lays four eggs, of an oil-green colour, blotched and spotted with black.

PLATE 35. Fig. 1. represents the bird in the summer plumage.

Forehead, eye-streak, and orbits white. Space between the bill and eyes, cheeks, sides and fore part of neck, breast, flanks, and belly, deep black. Abdomen, vent, and thighs, white. Lateral under tail-coverts with oblique black bars. Crown of the head hair-brown, with the shafts of the feathers black. Hind part of the neck a mixture of pale hair-brown and white. Back-scapulars and wing-coverts black; the feathers being tipped and barred with white and yellowish-white. Quills having part of the inner web and the shafts white. Axillary feathers black. Tail-coverts white, barred with hair-brown. Tail the same, except the outer feather on each side, which is nearly white. Bill black. Legs and toes blackish-grey.

Fig. 2. in the winter plumage.

Chin white. Neck, breast, and flanks white, marbled with pale ash-grey and hair-brown. Belly and abdomen white. Head, back part of the neck, and the whole of the upper parts of the body hair-brown, having the shaft of each feather darker, and being margined and spotted with greyish-white, or pale ash-grey. Under wing-coverts, or axillary feathers, black.

* I have occasionally met with one or two of these birds upon the Fern Islands in June, but could never detect any of their young. These individuals, probably from some accidental cause, had been unequal to the usual migration.

Young The young of the year differ from the adults in having the feathers of the upper parts of the body spotted with yellow and yellowish-white, sometimes approaching very nearly in colour to *Charadrius Pluvialis*.

GENUS CHARADRIUS, LIN. PLOVER.

GENERIC CHARACTERS.

Bill strait, compressed, shorter than the head; the anterior portion of each mandible horny and hard; that of the upper one slightly arched, and rounded underneath; of the under one gently ascending. Lateral furrow extending to two-thirds of the length of the bill.

Nostrils basal, lateral, linear, longitudinally cleft in the large membrane of the nasal furrow.

Wings of mean length, narrow, acuminate, with the first quill-feather the longest.

Legs rather long, or of mean length, slender, naked above the tarsal joint. Tarsi reticulated. Feet three-toed; all the toes directed forwards, rather short; the outer toe united to the middle one by a short membrane.

Tail in gradations, from nearly a square end in some species, to a very wedge-shaped form in others.

Plumage thick, close, and adpressed.

The members of this genus (which may be considered the typical form of the *Charadriadæ*) are numerous, and possess a very wide geographical distribution, species being found in every quarter of the globe. Some of them, during the greater part of the year, are the inhabitants of open districts, and of wild wastes, frequenting both dry and moist situations, and only retire towards the coast during the severity of winter. Others are constantly resident upon the banks or about the mouths of rivers, particularly where the

shore consists of small gravel or shingle; such are most of the smaller species. Except during the season of reproduction, most of them live in societies, larger or of less amount, according to the species. Their migrations are also performed in numerous bodies, the old birds usually congregating by themselves, and preceding the young in their periodical flights. They run with much swiftness, as might be expected from the simple structure of their feet; and from the shape and dimensions of their wings, they fly with strength and rapidity. They live on worms, insects, and their larvæ, &c., and most of them are nocturnal feeders, as indicated by their large and prominent eyes. They are subject to the double moult, and the change at the different seasons is in many species very marked. Their nest is on the ground, and their eggs are always four in number. The flesh of the larger species, and such as inhabit the plains of the interior, is delicate and high flavoured; but in many of the smaller kinds that live on the coast, or on the banks of rivers, it is not so palatable.

GOLDEN PLOVER.

CHARADRIUS PLUVIALIS, Linn.

PLATE XXXVII.

Charadrius Pluvialis, Linn. Syst. 1. 254. 7.—Gmel. Syst. 1. 688.—Lath. Ind.

Orn. 2. 740. sp. 1. var. B.—Briss. Orn. 5. 43. 1. t. 4. f. 1.—Shaw's Zool.

11. 464. pl. 34.—Flem. Br. Anim. 1. 113. sp. 163.

Pluvialis viridis, Raii Syn. 111. A. 2.—Will. 289. t. 57.

Le Pluvier doré, Buff. Ois. 8. 81.—Id. Pl. Enl. 904.—Temm. Man. d'Ornith. 2. 535.

Goldregen Pfeifer, Bechst. Naturg. Deut. 4. 395.—Meyer, Tasschenb. Deut. 2. 318.

Golden Plover, Br. Zool. 2. 474. No. 208.—Arct. Zool. 2. 399.—Will.

(Angl.) 308.—Lath. Syn. 5. 193. 1.—Id. Sup. 252.—Mont. Ornith. Dict.

Id. Sup.—Bewick's Br. Birds, Ed. 1826. p. t. 367.—Pult. Cat. Dorset, 16.

Green Plover, Low's Faun. Orcad. 88.—Flem. Br. Anim. 2. 113, sp. 163.

Charadrius Africanus, Linn. Syst. 254. 6.—Gmel. Syst. 1. 687.—Lath.

Ind. Ornith. 2. 742. sp. 5. but not all the synonyms.—Shaw's Zool. 11.

466, but not Wilson's Synonyms.

Alwagrim Plover, Penn. Arct. Zool. 2. 398.—Lath. Syn. 5. 198. 5.—

Shaw's Zool. 11. 466.

} Summer
plumage.

PROVINCIAL.—Grey Plover, Whistling Plover, Black-bellied Plover.

THE present species has a wide geographical range, though not, I imagine, to the extent supposed by many naturalists; the birds which have been considered by them as belonging to this species being of a different one, viz. the *Charadrius Marmoratus* of WAGLER, which, though nearly allied to, and greatly resembling, *Char. Pluvialis* in general appearance, yet possess certain and permanent distinctions in colour of plumage, size, &c. Among these, I may mention, as a test of contradistinction, the colour of the under surface of the wings, and of the long axillary feathers, which, in the exotic species, are of an uniform cinereous or pale hair-brown colour; whereas, in all specimens of *C. Pluvialis*, they are pure white. Instead, therefore, of extending the range of the species now before us to America, New Holland, and other parts of the southern hemisphere, I feel inclined to limit it to Europe, Northern Asia, and some few districts in the North of Africa. Although it may be accounted indigenous in Britain, being found in parts of the kingdom through the whole year, it is nevertheless subject to the laws of migration, even within these confines. Thus, as autumn approaches, and after the young have acquired maturity, large flocks are formed, which gradually leave the upland and mountainous districts, and come down to the lower lands and to the coast. Some of these bodies pass onwards to spend the winter on the open downs that overlook the sea in the southern counties, where this bird can only be regarded as a winter visitant, since it does not appear that it breeds much to the south of a boundary formed by the river Tyne. Towards the end of March, or the beginning of April, when the impulse of nature excites them, the flocks, which during the autumn and winter had remained united, begin to separate into smaller parties, and retire to the uncultivated grounds of the northern counties of England, and to the Highlands of Scotland, where they break into pairs and prepare to breed. At this period the vernal moult commences, and a remarkable change of plumage is soon perceptible, the birds being fully clad in

their nuptial garb by the end of May. In this state, the Golden Plover has been described as a distinct species, under the title of *Charadrius Apricarius*, a synonym also applied by ornithologists, in some instances, to the exotic species which I have before mentioned as having been confounded with the present one. Some of our naturalists indeed seem, at this day, to be either not aware or not convinced of the change that annually takes place in the appearance of our species, for Mr STEPHENS, the continuator of Dr SHAW's General Zoology, under the head of *Charadrius Apricarius* (Alwargrim Plover), says, "This, which TEMMINCK asserts to be the summer plumage of *Charadrius Pluvialis*, I am induced to consider distinct, as I have never seen a specimen that was captured in England, where the Golden Plover is very common, and has been observed at all seasons." That Mr STEPHENS should not have met with it in this state in the south of England, is only what might be expected, as these birds quit their winter haunts before the change commences; but that he should never have seen a British-killed specimen under this change, is certainly extraordinary, as many collections must at the time have possessed such; and I may add, that previous to the publication of Mr STEPHENS's eleventh volume, I was in the habit of sending this bird, in its summer dress, to various friends and correspondents, having, from my peculiar situation, opportunities of obtaining it in all its stages of change.—About the end of May or beginning of June, the females begin to lay, making but little artificial nest, a small depression in the ground amidst the heath being generally taken advantage of, and lined with a few dry fibres and stems of grass. The eggs are four in number, rather larger than those of the Lapwing, of a cream-yellow, inclining to oil-green, with large irregular confluent blotches or spots of deep umber-brown. The young, when excluded, are covered with a beautiful parti-coloured down of bright king's-yellow and brown: they quit the nest as soon as hatched, and follow their parents

Nest, &c.

till able to fly and support themselves, which is in the course of a month or five weeks. The old birds display great anxiety in protecting their young brood, using various stratagems to divert the attention of an enemy; among others, that of tumbling over, as if unable to fly, or feigning lameness, is the most frequent, and appears indeed to be the instinctive resort of those birds that construct the nest and rear their young on the ground. When aware of an intruder near, the female invariably runs to some distance from her nest before she takes wing, a manœuvre tending to conceal its true situation; and the discovery of it is rendered still more difficult by the colour and markings of the eggs assimilating so closely to that of the ground and surrounding herbage. The usual call-note of the Plover is a plaintive monotonous whistle, by imitating which it may frequently be enticed within a very short distance. In the breeding season a more varied call is used, during which it flies at a great elevation, and continues soaring round for a considerable time. Towards the end of August these birds begin to leave the moors (having then congregated in large flocks), and descend to the fallows and the newly sown wheat-fields, where an abundance of their favourite food can be readily obtained. At this season they soon become very fat, and are excellent at the table, their flesh being not inferior in flavour to that of the Woodcock, or any of our most esteemed sorts of game. In these haunts they continue till severe weather approaches, when they either move nearer to the coast or migrate to the southern parts of the kingdom. They fly with strength and swiftness, and if disturbed, when in large flocks, generally perform many aerial evolutions and rapid wheelings before they again settle on the ground. The Golden Plover is a nocturnal feeder, and, during the day, is commonly seen squatted upon the ground or standing asleep, with the head drawn down between the shoulders. Its food consists of

Food.

earth-worms, slugs, insects, and their larvæ, particularly those of the *Lepidopterous* tribe, many rare species of which

I have, upon dissection, found in their stomachs and gullet during the summer season. It runs very fast, and when wounded is difficult to be caught without the aid of a dog.— Upon the continent these birds are abundant during the time of their migrations, as in Holland, parts of France, Germany, &c. In Sardinia they winter in immense flocks, as well as in other countries of the south of Europe, retiring in the summer to high northern latitudes of Asia and Europe to breed.

PLATE 37. Shows the Golden Plover of the natural size, in both the winter and summer plumage.

Crown of the head, hind part of the neck, back, wing-coverts, and scapulars, brownish-black, or very deep hair-brown, each feather having triangular marginal spots, and the tip of king's-yellow. Tail deep hair-brown, with oblique bars of pale king's yellow. Quills hair-brown, with the anterior part of the shafts of the first five white. Forehead, cheeks, and eye-streak yellowish-white, streaked and spotted with pale hair-brown and grey. Chin and throat white. Fore part of the neck, breast, sides, and flanks ash-grey, tinged in parts with king's yellow, and spotted and streaked with darker grey. Belly, abdomen, and under tail-coverts, white. Long axillary feathers beneath the wings pure white. Legs and toes deep grey.

General description.
Winter plumage.

During the breeding season the cheeks, chin, throat, auriculars, fore part of the neck, list down the centre of the breast, belly, and abdomen are of an intense black. Forehead, eye-streak, and the marginal line bordering the black upon the neck and breast, pure white. Sides of the breast marbled with king's-yellow and black. Sides and flanks white, marbled with pale hair-brown and yellow. Under tail-coverts white, the lateral ones being tinged with yellow and obliquely barred with hair-brown. Upper parts of the body having the black more

Summer plumage.

intense in colour, but similar in markings to the winter plumage. In the female, the black of the under parts and about the head, during the breeding season, is generally marbled with white, and not so intense as in the male bird. In spring, when acquiring, and again in July when loosing, the nuptial dress, it is found with the black or white predominating according to the advance it may have made in each respective change.

DOTTEREL.

CHARADRIUS MORINELLUS, Linn.

PLATE XXXIX. FIGS. 1. and 2.

- Charadrius Morinellus*, Linn. Syst. 1. 254. 5.—Gmel. Syst. 1. 686.—Lath. Ind. Orn. 3. 746. sp. 17.—Shaw's Zool. 11. 468.—Flem. Br. Anim. 1. 113. sp. 164.—Briss. 5. 54. 5. t. 4. f. 2.—Raii Syn. 111. A. 4.—Wagler, Syst. Av. sp. 38.
- Charadrius Tataricus*, Lath. Ind. Orn. 2. 746. sp. 15.
- Charadrius Sibiricus*, Gmel. Syst. 1. 690.—Lath. Ind. Orn. 2. 747. sp. 19.
- Le Pluvier Guignard, Buff. Ois. 8. 87.—Id. Pl. Enl. 332.—Temm. Man. d'Ornith. 2. 537.
- Der Dümme Regenpfeifer, Bechst. Naturg. Deut. 4. 406.
- Dotterel, Br. Zool. 2. 477. No. 210.—Arct. Zool. 2. 487. A.—Will (Angl.) 309.—Albin's Br. Birds, 2. t. 62.—Lath. Syn. 5. 208. 14.—Bewick's Br. Birds, Ed. 1826. 1. p. t. 269.—Mont. Orn. Dict. 1.—Id. Sup.—Flem. Br. Anim. 1. 113. sp. 164.—Rennie's Mont. Orn. Dict. 137.
- Dotterel Plover, Shaw's Zool. 11. 468.

Periodical
visitant.

THE Dotterel can only be reckoned a cursory visitant at the two periods of its migrating flights, viz. in spring, during the months of April and May, when on its way to higher latitudes for the breeding season, and again in September and October, on its return to its winter quarters in the warmer parts of Europe and Asia. By some writers, however, it has been supposed, that a part of the birds which visit Britain in spring remain to breed upon the moors of the northern counties of England, and in the Highlands of Scotland. Amongst others, MONTAGU and Dr FLEMING seem to favour this opinion; the former of whom, in his Ornitho-

logical Dictionary, after stating the probability of the fact, observes, that he once saw Dotterels in Scotland sufficiently late to induce him to entertain such an idea, and further adds, that Col. THORNTON informed him of his having seen Dotterels in *pairs* upon the Grampian Hills; but, unfortunately, in neither of these cases is the precise time of year mentioned. Dr FLEMING, in his History of British Animals, cites a passage from the Statistical Account of the parish of Carmylie, in favour of the above supposition; but the paragraph is too generally worded to establish as a *fact*, the residence and breeding of these birds upon the Grampian Mountains. In Northumberland (where considerable flocks annually appear in certain haunts near the coast in the month of May, and where their visit seldom extends beyond a week or ten days), I have, during summer, examined all the upland moors, and the range of the Cheviot Hills, these being the situations to which they would naturally retire, if any remained, to breed, but always without success; nor did the bird appear to be known to the shepherds or other inhabitants of these districts. The same may be said of the moors of Cumberland, and the south-western parts of Scotland, where, indeed, it is of very rare occurrence, even during its periodical flight; the line of migration of the passing bodies that visit us in spring being along the eastern coasts of the island. I may also add, that in various excursions to the Highlands of Scotland, I never met with the Dotterel in the summer or breeding season, though its congener the Golden Plover was frequently seen; nor has any instance occurred of the nest, eggs, or immature young of this bird having been yet found. It is seen, on its return from its breeding quarters, in particular haunts during the months of September and October, generally in families of five or six together, being the old birds and their brood; occasionally, however, earlier appearance may happen, as in the case of the bird mentioned by Col. THORNTON in his Sporting Tour, which he killed in Scotland on the 16th of August; and a Dotterel, apparently

a bird of the year, once fell before my own gun when shooting Grouse on the 20th of August. These, in all probability, were birds of early hatchings, which appear frequently to precede the main bodies of their species in the equatorial migration, as I have previously remarked in the history of the Sanderling. The Dotterel has always been considered a *stupid* bird, but for what reason I cannot conceive. I allow, that on its first arrival, it shews but little fear of man, but this, I apprehend, arises more from inexperience of persecution in its native wilds, than from any other cause, and which appears evident from the birds, when harassed and repeatedly fired at, soon becoming too cautious to admit of near approach any longer. Their habits also contribute to render them unwary, for being nocturnal feeders (like many others of the *Charadriadæ*), they are at rest and asleep during the greater part of the day, in which state also the Golden Plover (a wary bird when roused) will frequently admit of a close approach. As to the story of the Dotterel mimicking the actions of the fowler, by stretching out its leg, wing, or head, when he sets the example, it, without doubt, arose from the motions that they, as well as other birds, usually and most naturally make when roused from a state of repose; and which every one who attends to the habits of the feathered race must (in flocks of Gulls, Plovers, Tringas, &c.) have frequently observed. The Dotterel is particularly abundant in northern Asia and the eastern parts of Europe. It inhabits Siberia, and the vast steppes of Tartary, frequently living in the vicinity of the salt lakes and marshes of that open region. It is also found, during its winter migration, in Italy and Spain. The great body of these birds retires to the high latitudes of Northern Asia, Russia, and Lapland Alps to breed; but the flocks which pass along the eastern coast of our island are supposed to limit their flight to the upland districts and mountains of Sweden and Norway.—The nest and eggs of the Dotterel have hitherto remained undescribed.

During its short abode with us, which is only in particular districts, it haunts fallow and newly sown corn-fields, as well as moors and open downs. In the neighbourhood of Cambridge and Royston, it is killed during its vernal passage in considerable numbers; its flesh, which is sweet and of delicate flavour, being highly prized for the table. In Northumberland, it frequents some few places along the coast, and in North Durham, about Scrimmerston and Unthank (four miles south of Berwick), it annually appears in large flocks. Its food, like that of the Golden Plover, consists of worms, slugs, insects, and their larvæ.

PLATE 39. Fig. 1. Represents the male bird in summer plumage.

Crown of the head deep clove-brown, each feather being finely margined with white. Over each eye is a broad streak of white, which meet behind, at the nape of the neck. Cheeks, chin, and throat white. Lower part of the neck, and upper part of the breast, pale hair-brown, tinged with grey. Pectoral fascia consisting of a streak of black and a broader one of white. Lower part of the breast and belly orange-brown. Abdomen black. Vent and under tail-coverts reddish-white. Upper parts of the body pale hair-brown, tinged with ash-grey, the feathers being margined with pale orange-brown. Tail slightly wedge-shaped, having the two middle feathers of a uniform pale hair-brown, the rest on each side with white tips, and the outmost, with its outer web, also white. Quills deep hair-brown, the shaft of the first being white, very thick and strong. Legs and toes yellowish-brown. Bill dusky.

General description.
Summer plumage.

In the female, the pectoral band is not so distinct; the orange-brown upon the breast much paler, and tinged with grey, and the abdomen mixed with white feathers.

Fig. 2. Is taken from a female bird after the autumnal moult.

Forehead white, streaked with brown. Crown of the head

Winter plumage.

brownish-black, the feathers being edged with pale reddish-brown. Eye-streak, cheeks, and throat reddish-white, with a few specks and lines of brown. Neck ash-grey, tinged with pale orange-brown. Breast ash-grey marbled and tinged with pale reddish-brown, and shewing an imperfect greyish-white fascia. Belly and abdomen white, dashed with pale orange-brown. Under tail-coverts reddish-white. Upper parts hair-brown, tinged with grey, each feather being deeply edged with pale orange-brown. Tail deep hair-brown, the two middle feathers being margined, near their tips, with reddish-white, the rest having large white tips, the outermost feather (as in the summer plumage), with its outer web white.

RINGED PLOVER.

CHARADRIUS HIATICULA, Linn.

PLATE XXXVIII. FIGS. 1, 2.

Charadrius Hiaticula, Linn. Syst. 1. 253 1.—Gmel. Syst. 1. 683.—Lath. Ind. Orn. 2. 743, sp. 8. but not the Pl. Enl. 921. of Buffon, and neither of the varieties B. and Y.—Steph. Shaw's Zool. 11. 470.—Flem. Br. Anim. 1. 113. sp. 165.—Wagler's Syst. Av. 1. sp. 21.
Pluvialis torquata minor, Briss. Orn. 5. 63. 8. t. 5. f. 2.
Pluvier à collier, Buff. Ois. 8. 90.—Id. Pl. Enl. 920.
Grand Pluvier à collier, Temm. Man. d'Ornith. 2. 539.
Buntschnabliger regenpfeifer, Bechst. Naturg. Deut. 4. 414.
Halsband regenpfeifer, Meyer, Tasschenb. Deut. 1. Heft 15.
Sea Lark, Albin's Br. Birds, 1. t. 80.—Will. (Angl.) 310. t. 37.
Ringed Plover, Br. Zool. 2. No. 211.—Arct. Zool. 2. 401.—Lath. Syn. 5. 201. 8.—Lewin's Br. Birds, 5. pl. 184.—Pall. Cat. Dorset. p. 16.—Mont. Ornith. Dict. 2. and Sup.—Bewick's Br. Birds, 1. t. p. 345.—Id. ed. 1826, 1. f. p. 371.—Shaw's Zool. 11. 470.—Flem. Br. Anim. 1. 113. sp. 165.
Dulwilly, Rennie's ed. Mont. Ornith. Dict. p. 141.

PROVINCIAL.—Ring Dotterel, Sand Lark, Sea Lavrock, Sandy Lavrock, Sandy Loo.

THIS small and prettily marked Plover is an indigenous species, and is found throughout the year upon all the coasts of Britain, though BEWICK, in his History of British Birds, has inadvertently stated it to be migratory in the northern counties, and only known as a summer resident. This asser-

tion long experience enables me decidedly to contradict, as these birds are met with in even greater abundance upon the Northumbrian coast during the winter, than in the summer or breeding season, when some of them retire inland to the banks of rivers, and to the pebbly margins of lakes. They particularly frequent bays, creeks, and the mouths of rivers, where the shore is composed of gravel, and during winter collect in small flocks, which generally keep themselves separate from the Purres and other Tringas, although they may occasionally be seen joining them in their wheeling flights. They run with nearly as much swiftness as the Sanderling, and in this action (as is also seen in the other Plovers and Cursorial birds) the neck is shortened, and the head thrown well back between the shoulders. Early in May they begin to pair, and to look out for an appropriate situation for rearing the forthcoming brood. This situation is usually found amongst the gravel, near the high-water mark; sometimes also on the links or sand-hills that line the coast, or even in a corn-field, if immediately adjoining the shore. A few, as I have before observed, retire inland for this purpose, where they take up their residence on the margins of rivers. Little artificial nest is made; a slight hollow, lined with a few stems of dry grass, sufficing to receive the four eggs, which are of cream-yellow, tinged with grey, covered all over with variously-sized spots of blackish-brown, with others of a lighter shade appearing beneath the outer shell, and in size nearly equal to those of the Common Sandpiper (*Totanus Hypoleucos*). The old birds display great anxiety about their young, and, like the Golden Plover, use various stratagems (such as feigning a crippled state, or tumbling over as if unable to fly), with the view of enticing a dog, or any suspected enemy, from the vicinity of their brood. On wing these birds are strong, and fly with rapidity, but seldom to any great distance, unless repeatedly disturbed; generally, after a short circuit, alighting upon the sand or gravel not far from the spot whence they last rose. Upon the sea-coast

Nest, &c.

Food. they feed on small marine insects, worms, and crustacea ; and, when frequenting the edges of rivers and lakes, on aquatic-insects, both as larvæ and in the perfect state. The Ringed Plover is widely distributed over Europe, inhabiting the northern parts as far as Iceland. In Holland it abounds; also upon the coasts of France, Italy, &c. It is met with in parts of Africa, and the species found in North America seems to be in every respect similar. Its note is a rather soft plaintive whistle, frequently repeated when on wing, or when running on the shore. This bird appears to have been often confounded by preceding authors with the *Charadrius minor* of TEMMINCK, and also with the *Charadrius Cantianus* of LATHAM ; which latter ranks as a British species, and is occasionally found upon the southern coast. The former has not yet been met with in Britain. The Ringed Plover is subject to the double moult, but the change is only shewn by the greater intensity of the black, and the more perfect purity of the white parts of the plumage.

PLATE 38. Fig. 1. Represents the adult male in summer plumage.

General
description.

Summer
plumage.

Base of the upper mandible, space between it and the eyes, and the ear-coverts, black. Forehead white ; behind which a band of black passes over the crown of the head from eye to eye. Over the eye a streak of white passes backwards towards the nape of the neck. Chin, throat, and collar, white. Lower part of the neck, and upper part of the breast, having a broad gorget of intense black, passing backwards and forming a second collar. Under parts pure white. Back part of the head, nape of the neck, and the whole of the upper parts, pale hair-brown, with a cinereous tinge. Quills deep hair-brown, with the basal part of the outer webs of the secondaries white. Greater wing-coverts having white tips. Tail, with the two middle-feathers, hair-brown, the rest having white tips, except the outer feather,

which is white, with a black spot in the centre of the inner web. Legs and toes gallstone yellow. Bill orange at the base, with the tip black. Irides brown. The female is similar to the male bird, except that the black collar and coronal band are not so intense in colour.

Fig. 2. The young of the year, killed in October.

Upper mandible brown at the base; under one pale orange-yellow. From the base of the bill to the eye is a dusky streak. Forehead dirty white. Crown of the head hair-brown, and without the black band that distinguishes the adult. Throat, and ring round the neck, white, tinged with yellow. Gorget wood-brown. Back and wing-coverts pale hair-brown, tinged with grey, the tips and sides of the feathers finely margined with sullied white. Under parts white. Tail as in the adult bird. Legs and toes wax-yellow. Winter plumage.

KENTISH PLOVER.

CHARADRIUS CANTIANUS, Lath.

PLATE XXXVIII. FIG. 3.

Charadrius cantianus, Lath. Ind. Orn. Sup. 66. 1.—*Temm.* Man. d'Ornith. 2. 544.—*Steph.* Shaw's Zool. 11. 474.
Charadrius Alexandrinus, Hassel. H. 255. 30.
Charadrius albifrons, Meyer, Tasschenb. Deut. 2. 323. sp. 5.—*Wagler,* Syst. Av. 1. sp. 32.
Charadrius littoralis, Bechst. Naturg. Deut. 4. 430. t. 23. f. 1. and 2.
 Pluvier à collier interrompu, *Temm.* Man. d'Ornith. 2. 544.
 Kentish Plover, *Levin's* Br. Birds, t. 185.—*Lath.* Syn. Sup. 2. 316. 3.—*Mont.* Ornith. Dict. Sup.—*Shaw's* Zool. 11. 474.

THIS species, which is rather inferior even in size to the preceding one, was first named by Dr LATHAM, in the Supplement to the "Index Ornithologicus," and was described by him at greater length in the second supplementary vo-

lume of his "General Synopsis," from three specimens sent to him by Mr Boys of Sandwich, of which one was killed in May 1787, the others in April 1791. Since that time we have other instances of its capture, amongst which may be particularly noticed two young birds of the year, killed upon the Norfolk coast in 1827, and recorded by WILLIAM YARRELL, Esq. in the third volume of the Zoological Journal, where he has, with his accustomed perspicuity, minutely pointed out the characters that distinguish the present species at this age from the young of *Charadrius Hiaticula*. Of this latter MONTAGU was inclined to consider it only a variety, as may be gathered from the contents of his paper, published in the seventh volume of the Linnean Transactions, and afterwards transcribed into the Supplement to the Ornithological Dictionary, under the head of "Ringed Plover." Such an opinion, however, I feel confident, could only have arisen from his never having seen a specimen of the Kentish Plover, as, upon examination and comparison with *C. Hiaticula*, so accurate an observer and intelligent a naturalist must have been at once convinced that they were, though nearly allied, yet perfectly distinct species *. As to the *Charadrius Alexandrinus* of authors, which was also considered by him to be *C. Hiaticula* in its adolescent state, from being unable to refer it to any other species within his knowledge, I agree with TEMMINCK and WAGLER, that it ought to be expunged from the list of birds, being merely a nominal species, founded upon citations from other authors; and referring not only to the present bird, but also to *Charadrius minor* of TEMMINCK (*Char. Curonicus* of LATHAM's Index, Ornith.), another species of Ringed Plover, very similar in its markings, but inferior in size to *C. Hiaticula*;

* On referring to Dr RENNIE's late edition of MONTAGU's Dictionary, I was surprised to find that the *Kentish Plover* is considered by him also as "a variety of the Ringed Plover." I must therefore suppose that he also has never seen the former bird, or at least had the opportunity of comparing it with the latter.

common in Germany and the southern parts of Europe, but hitherto unrecorded as a British species. TEMMINCK states the Kentish Plover to be very abundant in Holland; in England it is comparatively of rare occurrence, and its appearance has been hitherto confined to the eastern shores of the island. It is also found in Egypt, Nubia, and Tartary. Its manners are similar to those of the Ringed Plover, and it is a constant resident upon sea-coasts.—It breeds upon the gravelly beach above the usual reach of high water, using any small depression as a receptacle for its four eggs, which are smaller than those of the preceding species, but alike in colour *. Its food consists of small marine scarabæi, and other insects, worms, and diminutive bivalve shell-fish.

Nest, &c.

Food.

PLATE 38. Fig. 3. Represents the adult bird, from a specimen in the collection of Sir WILLIAM JARDINE, Bart.

Bill and legs black. Forehead and streak over the eyes white. Behind the forehead is an angular spot or band of black. Space between the bill and eyes, and the ear-coverts, black. Crown of the head and nape of the neck deep yellowish-brown, tinged with ash-grey. On each side of the breast is a large patch of brownish-black. Under parts, and imperfect ring round the neck, pure white. Upper parts pale wood-brown, with a greyish tinge. Quills hair-brown, with the shafts of the primary ones white. Tail having the four central feathers hair-brown, the three outer ones yellowish-white.

General description.
Adult bird.

* From a notice by Mr GEORGE CLAYTON of Rochester, in the 23d Number of the Magazine of Natural History, it appears highly probable that the *Char. Cantianus* breeds annually upon the Kentish coast; for he says, "I first met with these birds in Pegwell Bay, and on the Sandwich Flats in May 1830. They were then in pairs, and probably breed in the banks of shells which abound there." From his having shot seven of them in one day, they seem to have been rather numerous, and have in all likelihood hitherto escaped detection, from the similarity of their appearance and habits to the Ringed Plover.

Young. In the young state previous to the moult, there is no black about the head. Forehead and eyebrow white. Front of the neck the same. Crown of the head, back part of the neck, and all the upper parts of the body, light ash-brown. Patch on each side of the chest light hair-brown. Under parts white. Bill and legs black.

GENUS HIMANTOPUS, *BRISS.* STILT.

GENERIC CHARACTERS.

BILL longer than the head, slender, cylindrical, drawn to a fine point, slightly inflected towards the middle. Mandibles with a lateral groove, extending through one-half of their length; tomia of both mandibles anterior to the furrow, intracted; tip of the upper mandible slightly curving over that of the under one. Nostrils lateral, long, and linear.

Wings long, with the first quill-feather much longer than the rest.

Legs very long and slender. Tibiæ naked for the greatest part of their length above the tarsal joint. Tarsi thin and laterally compressed, reticulated. Feet three-toed, all the toes directed forwards; the outer toe united to the middle one by a large membrane; the inner toe by a much smaller membrane. Claws short, slightly curved, and having the inner edges expanded.

Plumage soft, close, and adpressed.

The members of this genus, remarkable for the disproportionate length and the slenderness of their legs, are not numerous, but possess a very wide geographical range, some one of the species being found in every quarter of the globe. By the earlier authors, when only one species was recognised, it was placed amongst the typical Plovers. It was very pro-

perly, however, detached by BRISSON, and obtained from him the generic name of *Himantopus*, which has been generally adopted by subsequent ornithologists. Its affinity to the Plovers is shewn in the form of its feet; and the passage to the genus *Charadrius* is effected through the interposition of some of the longer-limbed species, and by the members of the genus *Pluvianus*. It also connects the present family with certain groups of the *Scolopacidae*, as it shews an evident affinity, both in form and manners, to the Avosets (genus *Recurvirostra*); amongst which, indeed, WILSON was led to place the North American species, from the great similarity observed by that acute inquirer in their respective habits. The present birds inhabit the shores of the ocean, as well as of interior saline and fresh-water lakes, feeding upon worms, insects, larvæ, &c. which are obtained in the muddy shallows of the waters they frequent. Their moult is presumed by TEMMINCK to be double; for the fact does not appear to be established by actual observation.

BLACK-WINGED STILT.

HIMANTOPUS MELANOPTERUS, Meyer.

PLATE XXXIX.

- Himantopus melanopterus*, Temm. Man. d'Ornith. 2. 528.—Horsf. Trans. Linn. Soc. 13. 194.—Shaw's Zool. 12. 179.—Rennie's Mont. Orn. Dict. p. 496.
- Himantopus rufipes*, Bechst. Naturg. Deut. 4. 446. t. 25. f. 1.
- Himantopus atropterus*, Meyer, Tasschenb. Deut. ? 315.
- Himantopus*, Briss. 5. 33. t. 3. f. 1.—Raii Syn. 106. 9.—Will. 219. t. 54.
- Charadrius Himantopus*, Linn. Syst. 1. 255. 11.—Gmel. Syst. 1. 690.—Lath. Ind. Ornith. 2. 2. 741. sp. 3.
- L'Echasse, Buff. Ois. 8. 114. pl. 8.—Id. Pl. Enl. 878.—Cuv. Reg. Anim. 1. 496.
- L'Echasse à Manteau noir, Temm. Man. d'Ornith. 2. 528.—Lesson, Man. d'Ornith. 2. 340.
- Schwarzflügelige Strandreuter, Meyer, Vög. Deutsch. 5. 2. Heft 21.
- Long-legged Plover, Penn. Br. Zool. 2. No. 209.—Arct. Zool. 2. No. 405.—Lath. Syn. 5. 195. 3.—Id. Sup. 252.—White's Hist. Selh. p. 358.—Lewin's Br. Birds, 3. pl. 182.—Bewick's Br. Birds, ed. 1826. 1. t. pl. 365.—Shaw's Zool. sect. 1. pl. 80.
- Black-winged Longshank, Steph. Shaw's Zool. 12. 180.
- Stilt, Rennie's Mont. Orn. Dict. p. 496.

Occasional
visitant.

THIS bird, of such singular appearance, from the great length of its legs, in proportion to the size of its body, is only known to us as an occasional visitant,—a few specimens having been from time to time killed in different parts of these islands. It is met with in France, Germany, and the southern parts of Continental Europe, but only as a bird of passage, its chief habitats being in Hungary and Russia, upon the margins of the widely extended saline lakes of those countries, where it breeds and rears its young. It is also common in various parts of Asia, and occurs in Egypt and other districts of the African continent. Of its habits and other peculiarities I am unable to give any detailed account, never having been fortunate enough to see the bird in a living state, nor can I supply this deficiency by extracts from any other author*. Judging, however, that they will, in a great measure, resemble those of others of this genus, I refer my readers to WILSON'S graphic account of an American species closely related to the present one, and which he has described under the title of *Recurvirostra Himantopus*.

PLATE 39.* Represents this bird of the natural size.

General
description.
Male.

Bill black. Irides red. Forehead, region of the eyes, sides and front of the neck, lower part of the back, and the under parts white; the latter tinged with rose-red. Occiput and nape of the neck greyish-black. Hind part of the neck white, many of the feathers being tipped with greyish-black. Mantle, scapulars, wing-coverts, and quills black, glossed with duck-green. Tail ash-grey. Legs and toes vermilion-red. Tarsi thin and reticulated.

Female.

The female is inferior in size, and the dark parts of her plumage incline more to brown, without exhibiting the glossy green lustre of the male bird.

* I am informed that there is a coloured figure and description of this bird, under its former title of *Long-legged Plover*, in Dr SHAW'S "Naturalists' Miscellany," (a periodical work of considerable ability, but now difficult to be met with), taken from a recent specimen transmitted to that distinguished naturalist by a clergyman in Wales, where the bird was killed.

GENUS CÆDICNEMUS, TEMM. THICK-KNEE.

GENERIC CHARACTERS.

BILL rather longer than the head, strong, strait, depressed at the base ; the tip horny, hard, and compressed ; culmen of the upper mandible prominent, with the tip gently deflected. Nasal fosse large and wide, covered with a membrane like a cere. Under mandible angulated, and ascending towards the point. Gape of the bill extending backwards as far as the anterior angle of the eye. Nostrils medial, longitudinally cleft as far as the horny tip of the bill, open in front, and covered in the back part by the membrane of the fosse.

Wings of mean length, pointed, having the first quill shorter than the second, which is the longest in the wing. Tail wedge-shaped.

Legs long, slender, with part of the tibiæ naked above the tarsal joint. Tarsi covered with hexagonal scales. Feet three-toed, with all the toes directed forwards. Toes short, united at the base by a membrane, which is continued, and borders each toe. Nails short, slightly curved, with the inner edge of the middle one dilated.

This interesting genus, established by TEMMINCK for the reception of that species known in Europe, and of several others which late discoveries have produced to us from Africa, Asia, and New Holland, stands at the extremity of the present family, and serves to connect it with the *Rasorial* order, by its evident affinity to the Bustards, and other genera of the family of *Struthionidæ*. Its intermediate position between the Plovers and Bustards is clearly pointed out by the station which earlier systematists have given to the European species (the only one then known), LATHAM having placed it in the genus *Otis*, LINNÆUS and others in that

of *Charadrius*. It possesses, however, characters sufficiently prominent and distinct to warrant its separation from both; and which necessity is further shewn by the recent discovery of several other species, all possessing the typical characters of the Common Thick-knee. To the Plovers it is allied by the structure of its bill, by its large and rounded head, and the general contour of the body; to the Bustards by the form of its feet, and the shortness of its toes. Its habits are also more assimilated to the latter group, and, like them, it lays but *two* eggs. The species reside on uncultivated open countries and dry deserts, feeding upon insects, worms, small mammalia, and reptiles. Their moult appears to be simple, and there is but little difference between the sexes in plumage and general appearance.

COMMON THICK-KNEE.

ŒDICNEMUS CREPITANS, Temm.

PLATE XI.

Œdicnemus crepitans, Temm. Man. d'Ornith. 2. 521.—Shaw's Zool. 11. 459. pl. 33.

Œdicnemus Bellonii, Flem. Br. Anim. 1. 114. sp. 166.

Charadrius Œdicnemus, Linn. Syst. 1. 255. 10.—Gmel. Syst. 1. 689.—Wagler, Syst. Av. sp. 1.

Otis Œdicnemus, Lath. Ind. Orn. 2. 661. sp. 11.

Pluvialis major, *Œdicnemus vulgo dicta*, Raii Syn. 108. A. 6.—Will. 227. tab. 58.—Brisson, Orn. 5. 76. 12. t. 7. f. 1.

Fedoa nostra tertia, Raii Syn. 105. A. 6.—Will. 216.

Le Grand Pluvier, ou Courlis de Terre, Buff. Gis. 8. 105. pl. 7.—Id. Pl. Enl. 919.

Œdicneme Criard, Temm. Man. d'Ornith. 2. 521.—Lesson, Man. d'Ornith. 2. 336.

Lerchengraue Regenpfeifer, Bechst. Naturg. Deut. 4. 387.—Meyer, Tassenb. Deut. 2. 317.

Stone Curlew, *Albin's* Br. Birds, 1. pl. 69.—Will. (Angl.) 306.—Rennie's Mont. Orn. Dict. p. 500.

Thick-kneed Bustard, Penn. Br. Zool. 1. No. 200.—White's Hist. Selb. 4to. 43. 88.—Lath. Syn. 4. 806. 9.—Lewin's Br. Birds, 4. pl. 141.—Mont. Ornith. Dict. 1.—Id. sup.

Great Plover, Bewick's Br. Birds, ed. 1826. 1. p. t. 363.

Common Thick-knee, Leach, Cat. Br. Mus. p. 28.—Steph. Shaw's Zool. 11. 459. pl. 33.

PROVINCIAL—Norfolk Plover.

THE Common Thick-knee, or, as it is frequently called, the *Norfolk Plover*, is a migratory bird, and one of our regular summer visitants. It arrives in England generally about the end of April or the beginning of May (though earlier instances of its appearance have been occasionally noticed), and, after performing the duties attendant upon the reproduction of the species, as autumn advances collects into flocks, and retires soon afterwards, with the addition of the new matured young, to Africa and the warmer latitudes of the European continent, to pass the hiemal months. Its distribution in this country is principally confined to a few of the southern and eastern counties, as its peculiar habits direct it to such as afford extensive open tracts; on which account it is most abundant in Norfolk, Suffolk, and Sussex. It is also found in Hampshire, and sometimes, though of much rarer occurrence, in the wolds of Yorkshire, which seem to be the highest limit of its migration here; as I never met with it, nor have I heard of any instances of its capture in the more northern countries, or in any part of Scotland. According to MONTAGU and other ornithologists, it is equally excluded from the western parts of the island. Wide hilly downs are the situations that suit the economy of this bird, and where it passes the period of its residence with us. It makes no nest, but deposits its eggs on the surface of the earth, in fallow or other bare ground, especially where flint stones are abundant; as their similarity in colour to the bird and its eggs furnish great means of safety from its enemies. Like the Bustard, its eggs are limited to two, which are of a light yellowish-brown, with blotches and streaks of different shades of brown. The young follow their parents upon immediate exclusion, and are then covered with a parti-coloured grey down, which gradually gives place to the proper plumage, till in six weeks or two months they are enabled to fly, and of course to provide for themselves. The large and prominent eye of this bird indicates it as being a late and nocturnal feeder, and we accordingly find its prey

Periodical
visitant.

Nest, &c.

Food. to consist of small mammalia, reptiles, worms, and insects, of such species as are known to be abroad and in activity under the shades of night. The stomachs of two individuals sent to me from Norfolk in the spring, soon after their arrival in this country, were filled with the remains of beetles, chiefly belonging to the genus *Carabus*. This organ (unlike that of the Little Bustard, *Otis Tetrix*) was very muscular, with its inner coats corrugated; and in addition to the remains above mentioned, contained several small flint pebbles, in all probability intentionally swallowed, to assist the folds of the stomach in acting upon the hard shelly covering of its prey. This is a bird of wild and shy disposition, and, like other night-feeding species, usually is at rest during the day, sitting closely squatted behind a stone, clod, or any protecting cover; and, when disturbed, after flying to a short distance, runs off with great rapidity. With the advance of twilight it issues from its retreat in search of food, and may then be heard frequently uttering its loud and shrill whistle, which is supposed to be the amorous note-call of the male bird. It flies with great strength and swiftness, and during the night (especially in the breeding season) sometimes mounts high in the air. In its flight the legs are stretched out behind (as in the Plovers, and indeed in most of the *Grallatores*) to preserve the equilibrium of the body. This species has a wide geographical range in the old world, being found in Spain, the southern parts of France, in Germany, Italy, Sardinia, and Turkey, and in other southern parts of Europe, suitable to its habits. It is also to be met with in parts of Africa and Asia. The young are said to be good for the table, but the flesh of the old birds is dry, hard, and strong.

PLATE 40. Represents this bird of the natural size.

General
description.

Head and upper parts of the body reddish-white, tinged with ash-grey and yellowish-brown, each feather having a central streak of umber-brown. Cheeks, throat, belly,

and thighs white. Neck, and upper part of breast, yellowish-white, streaked with brown. Lesser wing-coverts pale cream-white. Quills black, the first having a large white bar near the middle, the second with one rather smaller. Tail wedge-shaped, the three outmost feathers reddish-white, with arrow-shaped bars and a broad tip of black, the next two feathers more inclining to wood-brown, with a few darker zigzag lines and variegations, and with black tips; the two middle feathers pale wood-brown, slightly marbled, but without the black tips. The horny point of the bill black, the basal part being primrose-yellow. Irides gamboge-yellow. Behind the eyes is a bare space of a wax-yellow colour. Legs and toes yellow, with a greyish tinge. Claws blackish-brown.

The female resembles the male bird; and the young are distinguished by the colours being less marked and distinct, and the tarsus below the joint being thick and swollen.

ORDER V.

NATATORES.

THIS Order, which constitutes the fifth great division of the Class, contains (as the title imports) all the various tribes conspicuous for their aquatic habits; and whose conformation, as to the structure of the feet and other anatomical points, fits them for swimming, diving, &c., and entitles them to the appropriate name of Water-Fowl. It answers to the *Palmipedes* of other systematists, if we except a few forms, which it has been found necessary (in strict accordance

with their affinities, and with the station they seem naturally to hold), to remove to families of another order; as the genus *Plœnicopterus* (Flamingo) to the family of *Ardeæ*, and *Recurvirostra* (Avoset) to that of *Scolopacidæ*, in the order *Grallatores*; the feet of these birds betokening more analogy than affinity to those of the true *Natatores*. The present order, like the preceding one, may be divided into five natural families, which (according to the nomenclature now adopted), are thus entitled, *Anatidæ*, *Colymbidæ*, *Alcadæ*, *Pelecanidæ*, and *Laridæ*, each taking its designation from the typical or representative genus. Of these, the *Colymbidæ* and *Alcadæ*, possessing in a superior degree the structure and qualities that peculiarly fit them for living on the ocean, and being at the same time deficient in properties possessed by the others, which are not so directly essential to that end, may be considered the typical representatives of the order; for as the order itself, as Mr VIGORS observes, is aberrant, inasmuch as it deviates from what he calls the more perfect structure* of the conterminous tribes or orders, the normal subdivisions will necessarily consist of such groups as carry this deviation to the greatest extreme, and this, upon investigation, will be found to prevail in the different genera of these two families. The other three, which diverge more or less from the true natatorial form, as exhibited in the *Colymbidæ* and *Alcadæ*, and approximate to each other, as well as to the families and groups of the preceding orders, form the aberrant divisions. The same circular succession of affinities that prevails throughout the

* When the words *perfect structure* are used, they must mean that peculiar formation which lies equally removed from the two extremes, considered with respect to systematic arrangement; such, for instance, as the central (or typical) form of any division or family. This distinction seems necessary to be made, lest the term should be liable to misconstruction; as we know that every creature issued *perfect* from the hand of its Creator, that is, with such an adaptation of its parts and their functions to its peculiar habits as Almighty Wisdom alone could produce.—P. S.

other orders and their subdivisions, may be traced in the present one; and its connexion with *them*, at various points, satisfactorily established by the tendency of particular genera and species. It is also through the connexion of this order with that of the *Raptores* (however improbable it may at first view appear), that the circle of the orders themselves is completed. This seems, however, to be effected by the intervention of a peculiar form in the family of the *Pelecanidae*; I allude to the genus *Tachypetes* of VIEILLOT (the type of which is the *Pelecanus Aquilus* of LINNÆUS), of which the species, both in form, flight, and predatory habits, shew a marked and near approach to the true raptorial birds. As the affinities of each family will be more particularly alluded to under their respective heads, I pass without further preface to that of the *Anatidæ*, with which the order commences.

FAMILY I.—ANATIDÆ.

THE Family of *Anatidæ*, to which we are introduced by the connexion subsisting between certain of its members and others of the preceding orders, forms the first aberrant family of the *Natatores*, and is formed of the extensive Linnean genus *Anas* with that of *Mergus*. The first it has been found necessary, by subsequent systematists (from the difficult task of reconciling and adapting the Linnean generic characters to the vast variety of species it contains), to separate, either by sectional division, as adopted by M. TEMMINCK, in his “*Manuel d’Ornithologie*” (which division is in fact equivalent to the subfamilies of the present system), or by the institution of distinct genera, the plan of ILLIGER, as well as other naturalists of the present day, and in which they do but follow the older ornithologists who preceded the learned Swede. In conjunction, however, with the genus *Mergus*, it appears clearly to admit of being separated

into five subdivisions or *Subfamilies** (or, as others may chuse to call them, Genera), each displaying the same series of affinities within itself that regulates the more extensive divisions. The first of them is the subfamily *Anserina*, containing all the species generally known under the name of Geese (and answering to TEMMINCK's section *Les Oies*), amongst which I also include the genus *Cercopsis* of LATHAM. These, in their terrene habits, food, facility of walking, length of neck and of leg (as compared with the other *Anatidæ*), and bareness of the tibia above the tarsal joint (as exemplified in *Cercopsis*, &c.), shew a near approach to the *Rasores* and *Grallatores*, and serve as a connecting medium between them and the present order. To the Geese, the subfamily *Cygnina* (Swans) seems naturally to succeed, nearly allied to them in form and other characteristics, but more aquatic in their habits; with shorter legs, placed further backwards and more out of the centre of gravity, being thus endued with less activity upon land. In the form of the bill they shew their connexion with the two next subfamilies; the first of which, *Anatina*, answers to TEMMINCK's first section of "*Canards proprement dits*." This appears to form the typical group of the present family, for in it we find the lamellated structure of the bill (belonging more or less to all the *Anatidæ*), developed in the highest degree; and habits mediate between those that approach nearest to the Land Birds, and those conducting to the more typical *Natatores*†.

* This arrangement of the *Anatidæ* differs slightly from that of Mr VIGORS, as developed in his "Sketches in Ornithology," published in the third volume of the *Zoological Journal*; in which he has made *Cercopsis* (without, as I think, sufficient reason, or a due consideration of its structure and affinities) the type of a subfamily. He has also placed the Mergs in the subfamily that contains the Ducks with a lobated hind toe, whereas the peculiar characters of the former seem to entitle them to a distinct station.

† I refer my readers to an able article, entitled, "On those Birds which exhibit the Typical Perfection of the Family of the *Anatidæ*," by Mr SWAINSON (one of the most scientific ornithologists of the present day)

From the *Anatina* we are led by easy gradations of character to the fourth subfamily *Fuligulina*, embracing TEMMINCK's second section of *Canards*, or Ducks with a lobated hind toe. These are more pelagic in their habits than the foregoing groups, and in form also make a more evident approach to the typical families of the present order; their legs, by being thrown far backwards, and much out of the centre of gravity, render their progress upon land constrained and awkward, but essentially contribute to their power of swimming. With them the neck becomes shortened and thicker, and the gullet more capacious, proportionate to the larger kind of food upon which they subsist. They swim remarkably well, rarely quit the water, and are in the constant habit of obtaining their food by diving. Nearly allied to these last in the backward situation of the legs, the form of the feet, lobated hind toe, and aquatic habits, are the members of the genus *Mergus*, forming the fifth subfamily *Mergina*. They differ, however, in the form of the bill, which in a great measure loses the breadth and depression seen in the three immediately preceding groups of the *Anatidae*, and becomes more like that of the succeeding families of the order; at the same time that the connexion with the first subfamily *Anserina* is preserved by the Smew (*Mergus albellus*), whose bill is almost of an intermediate form between that of some of the smaller Geese and the other species of *Mergi*.

The *Anatidae* are distinguished from the rest of this order, not only by the broad and depressed form of the bill, but by its softer consistence, and being entirely clothed by an epidermis, or skin, with the exception of the dertrum, or terminating nail. Its structure is also peculiar in another essential point, and differs from that of all other birds in the edges being furnished with lamellar plates, more or less de-

published in the Fourth Number of the Journal of the Royal Institution of Great Britain.

veloped, according to the proximity of the species to the typical subfamily *Anatina* ; in which, as I have before observed, it is carried to the highest perfection, in beautiful accordance with the use that so singular a structure is destined to fulfil. In the *Mergi*, which stand at the further extremity of the family, and whose piscivorous habits differ from those of the rest of the *Anatidæ*, this disposition of the edges of the bill becomes much altered, assuming the appearance of distinct hooks pointing backwards, a modification admirably adapted, by acting as teeth, to assist these birds in catching and holding their slippery prey. In this family (and particularly in the typical species), the tongue is very large and fleshy, furnished on its margin and other parts with rough appendages to secure their prey, and probably also to separate it from the water and mud by which it is often necessarily accompanied. The trachea, or windpipe, of the male birds in the three last subfamilies, and in some of the less typical species of *Anserina*, is distinguished by a singular enlargement or capsule near its bifurcation, differing in form according to the species ; in addition to which a few species display other enlargements in parts of the trachea, as exemplified in *Mergus merganser*, *Oidemia fusca*, *Clangula vulgaris*, &c. The stomach, or gizzard, of the *Anatidæ* is large and very muscular, and the cæcum is of considerable length.

SUBFAMILY ANSERINA.

GENUS ANSER, BRISS. GOOSE.

GENERIC CHARACTERS.

Bill as long as, or shorter than, the head ; strait, conical, thick, much higher than broad at the base, depressed and flattened towards the tip ; entirely covered with a cere, or naked skin, with the exception of the nails of the upper and

lower mandibles, which are distinct and horny, orbiculate and convex ; that of the upper mandible having the tip deflected, and covering the lower one. Lower mandible also narrower than the upper. Tomia laminato-dentated ; the lamellæ of the upper mandible exposed, those of the lower mandible covered by the projection of the upper one.

Nostrils lateral, placed rather behind the middle of the bill, and pierced in the lower and front part of the membrane that covers the nasal furrow. Tongue broad, fleshy, and fimbriated.

Wings long, ample, tuberculated.

Legs placed nearly under the centre of the body ; the tibia clothed nearly to the tarsal joint. Feet four-toed ; three before and one behind ; the front toes palmated, the hind one free, and articulated upon the tarsus, and scarcely touching the ground with its tip. Middle toe the longest. Nails falcate, and having their inner edges dilated.

Although LINNÆUS combined the whole of the *Anatidæ*, with the exception of the genus *Mergus*, under one generic head, the elder naturalists had always separated the Geese (or genus *Anser*) from the true Ducks, as presenting distinct and peculiar characters, not only in form, but in habits. The same has also been the prevalent opinion amongst subsequent authors ; and we find the genus *Anser* adopted by ILLIGER, BECHSTEIN, CUVIER, and other continental ornithologists, as well as by FLEMING, VIGORS, and most of the distinguished writers on this subject in our own country. The *Bernicles* have, by Mr STEPHENS, in the twelfth volume of Shaw's General Zoology, been separated from the rest, and described under the generic title of *Bernicla*, an arrangement that for the present I decline following, as I cannot, after the most minute investigation into the characters of the species, fix upon any one of sufficient importance to warrant a separation from the genus *Anser*, as above characterized. The genus, therefore, as now established, will

contain those species which we are accustomed to term *Wild Geese*, bearing a great resemblance to each other in form, colour of plumage, and habits; and the *Bernicles*, of inferior size, with a shorter bill, and generally with black legs.

From the central position of their legs, the moderate size of their feet, and the length of their tarsi, the Geese walk readily on land, and are indeed much more frequently seen there than on the water. They swim, however, with buoyancy and ease, but rarely dive, and only in cases of great emergency; when wounded, perhaps, or otherwise unable to escape. In diet they are graminivorous, as well as granivorous, chiefly the former; and for cutting such kind of food the laminated structure of the bill is admirably adapted. For this purpose they seek the meadows of the interior of the country, and resort much to fields of young wheat or other grain. From the great development of wing their flight is strong, and they make rapid progress during their migratory journeys, as they can move at the rate of fifty or sixty miles in an hour. In these flights they advance in a diagonal line, or in two such lines, meeting in a point like an inverted V. They breed in the marshy districts of the countries to which they retire during the summer months, laying several eggs of a white, or sullied white colour. The flesh of the species is well flavoured, and highly esteemed for the table; and in some countries certain kinds constitute the principal support of the inhabitants, being killed in immense numbers during their periodical flights, and prepared as food for the winter.

GREY LAG WILD GOOSE.

ANSER PALUSTRIS, Flem.

PLATE XII.

- Anser palustris, Flem.* Br. Anim. 1. 126. sp. 195.
Anas Anser (ferus) *Gmel.* Syst. 1. 510. sp. 9.—*Lath.* Ind. Ornith. 2. 841. sp. 26.
L'Oie cendrée ou Première, Temm. Man. d'Ornith. 2. 818.
L'Oie ordinaire, Cuv. Reg. Anim. 1. 530.
Wilde Gemicine Gans, Bechst. Naturg. Deut. 4. 842.
Grey Lag Goose, Penn. Br. Zool. 2. 570. No. 266.—*Arct. Zool.* 2. 473.—*Lath.* Syn. 6. 459. 31.—*Lewin's* Br. Birds, 6. pl. 238.—*Mont. Orn. Dict.* 1. and Sup.—*Bewick's* Br. Birds, ed. 1826. p. t. 282.
Wild Goose, Shaw's Zool. 12. 28. pl. 41.
Common Wild Goose, Will. (Angl.) 358.

FROM the concurrent testimony of our older writers, it appears that this species was formerly very abundant in Britain; and was also a permanent resident here, breeding annually in great numbers in the fens of Lincolnshire, and some of the adjoining counties. The draining and cultivation of these marshy tracts, under progressive agricultural improvement, and the increasing population of the kingdom, has, however, banished these birds from their ancient haunts; and they are now, comparatively speaking, of rare occurrence, and, as far as I can ascertain, only met with in small flocks during the winter. They seem to have given place, as it were, to the next species (*Anser scgetum*, Bean Goose), which, as a winter visitant, is very numerous, and widely spread throughout the country. According to TEMMINCK, the present species seldom advances much beyond the fifty-third degree of north latitude; its geographical distribution extending over the central and eastern parts of Europe, Northern Asia, and some parts of Western Africa, where it inhabits the marshes, and the borders of lakes and inland seas. It breeds amongst the rushes and other coarse her- Nest, &c
bage, making a large nest of vegetable matter, and laying

Food. from six to twelve eggs of a sullied white. Its food consists principally of the various grasses of the moist and marshy tracts it affects, though it eats grain with avidity. It is also very fond of the tender blades of wheat, &c., and often, during its periodical visits, does considerable damage to corn fields in an early stage of growth. Being a bird of great shyness and vigilance, it can only be approached by stealth, and with the utmost caution; this is generally effected by that mode of fowling called *stalking*, in which a horse is so trained, as, hiding the person of the fowler, to advance by degrees, and in an easy and natural manner, upon the flock, as they are at rest or feeding on the ground. In the latter state, which only occurs during the day-time, sentinels (occasionally relieved) are always on the watch to give notice of approaching danger, which they do, on the slightest suspicion, by a cry of alarm; and immediately the whole flock take wing, with an alertness and rapidity that could scarcely be expected in birds of such bulky appearance. At night they generally retire to the water for repose, but the same watchful attention to safety is maintained by sentinels, that distinguishes their conduct during the day. They usually fly at a great height in the air, moving either in a single diagonal line, or in two lines forming an angle, or inverted V. In this order the office of leader is taken by turns, the foremost, when fatigued, retiring to the rear, and allowing the next in station to lead the flight. It is generally admitted that our race of domestic Geese has originally sprung from this species, and however altered they may now appear in bulk, colour, or habits, the essential characters remain the same; no disinclination to breed with each other is evinced between them, and the offspring of wild and domesticated birds are as prolific as their mutual parents. The value of this species in its present domestic state, not only as food, but from the various uses to which its covering applies, is too well known for me to dwell upon; and as these points, along with the rearing and management of the bird, have been

fully treated of by PENNANT, MONTAGU, and BEWICK, I refer my readers, without further apology, to the works of these distinguished authors.

PLATE 41. represents this bird in about four-fifths of the natural size.

Bill orange-red; nail of the bill greyish-white (which, however, is not invariably the case, as TEMMINCK asserts in his description of the distinctive characters of this and the following species). Head and neck clove-brown, tinged with grey, the feathers of the latter disposed in rows, and forming lines or furrows. Back, scapulars, and wing coverts clove-brown, tinged with ash-grey, and the feathers deeply margined with greyish-white. Lesser wing coverts deep bluish-grey. Upper tail coverts white. Breast and belly greyish-white, undulated with transverse bars of a deeper shade. Vent and under tail coverts white. Tail clove-brown, with the margins and tips of the feathers white. Legs and feet tile-red.

General
description.

BEAN GOOSE.

ANSER FERUS, Flem.

PLATE XLII.

Anser ferus, Flem. Br. Anim. 1. 126. sp. 196.

Anser segetum, Steph. Shaw's Zool. 12. 26.

Anas Anser (ferus) Linn. Syst. 1. 197. 9.—Raii Syn. 136. sp. 2. 4.

Anser sylvestris, Briss. 6. 265. 2.

Anas segetum, Gmel. Syst. 1. 512.—Lath. Ind. Ornith. 2. 843. sp. 28.

I'Oie sauvage, Buff. Ois. 9. 30. t. 2.—Id. Pl. Enl. 985.

Oie vulgare ou sauvage, Temm. Man. d'Ornith. 2. 820.

Saat Gans, Bechst. Naturg. Deut. 4. 883.—Meyer, Tasschenb. Deut. 2. 554.

Bean Goose, Br. Zool. 2. 575. No. 267. Pl. 94.—Arct. Zool. 2. No. 472.—

Lath. Syn. 6. 464. 23.—Lewin's Br. Birds, 6. pl. 239.—Mont. Ornith.

Dict. and Sup.—Bewick's Br. Birds, ed. 1826. p. 286.—Shaw's Zool. 12. 26.

Wild Goose, Flem. Br. Anim. 1. 126. sp. 196.

PROVINCIAL—Common Wild Goose, Small Grey Goose.

Periodical
visitant.

THE Bean, or as it is very frequently called, the *Wild Goose*, bears in general appearance, and in the colour of its plumage, a great resemblance to the preceding species, and with which it is sometimes confounded. It may, however, be always distinguished from the *Grey Lag* by the form of its bill, which is comparatively much smaller, shorter, and more compressed towards the end. The colour of that member also differs, the basal part of the under mandible, and that of the upper as far as the line of the nostrils, with the nails of both mandibles, being black, and the intermediate part flesh-red, inclining to orange. It is also generally less, though I have had specimens equal in bulk to the smaller individuals of *Anser palustris*; and the wings of the present species, when closed, reach beyond the end of the tail.—In Britain it is well known as a regular winter visitant, arriving in large bodies from its northern summer haunts, during September or the beginning of October, and seldom taking its final departure before the end of April or beginning of May. The various flocks, during their residence in this country, have each their particular haunts or feeding districts, to which on each ensuing season they invariably return, as I have found to be the case in Northumberland and the southern parts of Scotland, where Wild Geese have been known to frequent certain localities for a continued series of years. The habits of this and the preceding species are very similar, and they shew the same vigilance, and use the same means of guarding against surprise: their capture is therefore proportionably difficult, and it is only by stratagem that, when at rest on the ground or feeding, they can be approached within gun-shot. In stormy weather, when they are compelled to fly lower than they usually do, they may be sometimes intercepted from a hedge or bank, situated in the route they are observed to take early in the morning, in passing to their feeding ground. At night they retire to the water, or else (as I have often remarked in Northumberland) to some ridge or bar of sand on the sea coast, suffi-

ciently distant from the main land to afford a secure retreat; and where the approach of an enemy must become visible, or at least audible to their acute organs, before it could endanger their safety. The haunts or feeding grounds of these birds are more frequently in the higher districts than in the lower and marshy tracts of the country, and they give the preference to open land, or where the inclosures are very large.—They feed much upon the tender wheat, sometimes injuring these fields to a great extent; and they frequent also the stubbles, particularly such as are laid down with clover and other grasses. In the early part of spring they often alight upon the newly sown bean and pea fields, picking up greedily such of the pulse as is left on the surface; and I am inclined to think that their trivial name has been acquired from their apparent predilection for this kind of food, rather than from the shape and aspect of the nail of the upper mandible, to which it has been generally attributed. They usually fly at a considerable elevation, either in a diagonal line, or in two such lines, opposed to each other, and forming a leading acute angle, like the other species; and when on wing they maintain a loud cackling, in which the voices of the two sexes may be easily distinguished. The rate at which they move, when favoured by a gentle breeze, is seldom less than from forty to fifty miles an hour, a velocity which enables them to have their roosting place far removed from the district they frequent by day. The principal breeding stations, or summer retreats, of the Bean Goose are in countries within the arctic circle; it is said, however, that great numbers breed annually in Harris, and some of the other outermost Western Islands. The nest is made in the marshy grounds, and formed of grasses and other dry vegetable materials; the eggs are white, and from eight to twelve in number. The trachea of this species increases in diameter towards the middle, and the bronchiæ are short and tumid. The denticulated lamina of the sides of the bill are similar in formation to those of *Anser palustris*, and form

Food.

thin sharp cutting edges, and the manner in which they lock within each other, renders the bill an instrument beautifully adapted for vegetable food.

PLATE 42. represents this bird of the natural size.

General
descrip-
tion.

Head and upper part of the neck brown, tinged with grey; the feathers of the latter being disposed in lines, and giving it a furrowed appearance. Lower part of the neck, breast, belly, and abdomen ash-grey, with deeper transverse shades of the same colour. Vent and under tail-coverts white. Back and scapulars clove-brown, tinged with grey; each feather being margined with greyish-white. Wing-coverts ash-grey. Secondaries clove-brown, with white edges and tips. Primary quills greyish-black. Rump deep grey. Upper tail-coverts white. Tail clove-brown, with the feathers deeply edged and tipped with white. Bill having the central part and edges of the upper mandible flesh- (or sometimes tile-) red; the base and nail black. Legs and toes inclining to orange-red, but varying in depth of colour according to the age of the bird. Wings, when closed, reaching beyond the end of the tail.

WHITE-FRONTED WILD-GOOSE.

ANSER ERYTHROPUS, Flem.

PLATE XLIII.

Anser Erythropus, Flem. Br. An. 1. 127. sp. 197.

Anas Erythropus, Linn. Syst. 1. 197. 11.—Temm. Faun. Suec. 116.

Anser albifrons, Steph. Shaw's Zool. 12. 25.

Anas albifrons, Gmel. Syst. 1. 509.—Lath. Ind. Orn. 2. 842. 27.

Anser septentrionalis sylvestris, Briss. Orn. 6. 269.

L'Oie rieuse, Buff. Ois. 9. 81.—Temm. Man. d'Orn. 2. 821.

Blassen Gans, Bechst. Naturg. Deut. 4. 898.—Meyer, Tasschenb. Deut. 2. 555.

Laughing Goose, Edward, Glean. pl. 153.—Flem. Br. Anim. 1. 127. sp. 197.

White-fronted Goose, Br. Zool. 2. 576. No. 268. t. 94. fig. 1.—Arct. Zool. 2. No. 476.—Lath. Syn. 6. 463. 22.—Lewin's Br. Birds, 6. 240.—Mont. Orn. Dict. 1.—Bewick's Br. Birds, ed. 1826, p. t. 294.—Shaw's Zool. 12. 25.

THE White-fronted Goose is one of our regular winter visitors, and in the southern and midland parts of England appears, from the testimony of MONTAGU, to be more abundant than the preceding species; which is by no means the case in the northern parts of the island, being there comparatively of rare occurrence, and in small flocks. It varies from the Bean-Goose, in preferring low and marshy districts, to the upland and drier haunts of that bird; and in these localities subsists on the aquatic grasses, being very seldom seen to frequent corn or stubble fields. A specimen sent to me (and which was killed near Alnwick, in Northumberland), had its stomach gorged with the tender shoots and leaves of the common clover (*Trifolium pratense*), upon which it was feeding, on the breaking up of a severe snow-storm. In size the large males nearly equal *Anser palustris*, some of them weighing as much as seven pounds; and in the market are frequently sold for the common species, but may at once be distinguished by the white forehead, and the black patches, which are never totally wanting on the breast and belly. During its winter or equatorial migration this species is numerous in Holland, and also in some districts of France and Germany. Its geographical distribution includes Europe, Northern Asia, and North America. In summer it retires within the Arctic Circle, and rears its young in those sequestered and tranquil regions, the nursery of such various tribes of the feathered race. In England these birds disappear on the first approach of spring, and some time before the departure of the Lag and Bean Geese; few being ever seen after the middle of March. As an article of food the White-fronted is equal to any of the others, its flesh being well-flavoured and tender, provided the subject be not too far advanced in years.

Periodical
visitant.

Food.

General description. **PLATE 43.** represents this species, rather below the natural size.

Bill flesh-red, tinged with orange; the nail being skim-milk white. Forehead and margins of the upper mandible white. Head and neck brown, tinged with grey. Breast, belly, and abdomen, black; varied with patches of white. Back clove-brown; with the margins of the feathers light-grey. Wing-coverts grey, edged with white. Quills greyish-black. Rump clove-brown. Upper and under tail-coverts, and vent, white. Tail having the middle feathers deep grey, edged with white; and the outer ones almost entirely white. Legs and toes reddish-orange. Claws white.

BERNICLE GOOSE, OR CLAKIS.

ANSER BERNICLA, Flem.

PLATE XLIV.

- Anser Bernicla, Flem. Br. Anim. 1. 127. sp. 198.*
Anser Leucopsis, Bechst. Naturg. Deut. 4. 921.
Anas Leucopsis, Temm. Man. d'Orn. 2. 823.
Anas Erythropus (mas), Linn. Syst. 1. 197. 11.—Lath. Ind. Orn. 2. 843. sp. 31.—Gmel. Syst. 1. 512.
Bernicla erythropus, Steph. Shaw's Zool. 12. 49.
Bernicla, Will. Orn. 274.—Briss. Orn. 6. 300.
La Bernache, Buff. Ois. 9. 93. f. 5.—Id. Pl. Enl. 855.
Oie Bernache, Temm. Man. d'Orn. 2. 823.
Weisswangige Gans, Meyer, Tasschenb. 2. 557.
Canada Goose, Albin's Br. Birds, 1. t. 92.
Bernicle, or Clakis, Penn. Br. Zool. 2. 577. No. 269.—Arct. Zool. 2. No. 479.—Will. (Ang.) 359.—Lath. Syn. 6. 466. 26.—Lewin's Br. Birds, 7. pl. 242.—Mont. Orn. Dict. 1. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 302.—Flem. Br. Anim. 1. 127. sp. 198.
 PROVINCIAL—Claik-goose, Routhbrook.

FROM the mistake of LINNÆUS, in describing the true Bernicle as the male of *Anser Erythropus* (White-fronted Goose), and considering *A. Brenta* and *A. Bernicla* of the older naturalists as synonymous, a misapplication of the ap-

propriate specific names has arisen amongst succeeding writers, they having still continued the appellation *Erythropus* to the Bernicle, instead of giving it to its proper object. TEMMINCK and BECHSTEIN, who saw the impropriety of retaining a specific name so inapplicable to the species (whose legs and feet are *black*), instead of restoring that imposed by the predecessors of LINNÆUS, gave it the new one of *Leucopsis*; and also neglected to transfer that of *Erythropus* to its real representative, the *Anas albifrons* of GMELIN and LATHAM. Dr FLEMING, however, in his "History of British Animals," has now rectified these errors, and the White-fronted and Bernicle Geese are each described under their appropriate titles of *A. Erythropus* and *A. Bernicla*.—The Bernicle is amongst the number of our winter visitants, annually resorting in vast numbers, upon the approach of autumn, to the western shores of Britain, and to the north of Ireland. Upon the Lancashire coast, the Solway Frith, &c. it is very abundant; frequenting the marshy grounds that are occasionally covered by the spring-tides, and such sands as produce the sea-grasses and plants upon which it feeds. Upon the eastern and southern shores of Britain it is of rare occurrence, its place being supplied by its nearly-allied congener, the Brent Goose (*Anser Brenta*); which again is as rarely seen upon the opposite coast of the island*. Like the rest of its genus, the Bernicle is a very wary bird, and can only be approached by the most cautious manœuvres. It is sometimes shot by moonlight, when it comes on the sands to feed, by persons crouched on the ground, or from behind any occasional shelter, in such places as the flocks are known to frequent. Its flesh is sweet and tender,

Periodical
visitant.

Food.

* WILLOUGHBY, in his valuable "Ornithology," (page 360, edit. 1678), mentions having seen the stuffed skin of the Bernicle in Sir W. FORSTER's hall at Bamburgh Castle, which I consider indicative of its scarcity on the Northumbrian coast at that period, being doubtless hung up as a *rara avis*. Brent Geese are still to be seen in great numbers in Budle Bay, not more than a mile to the northward of Bamburgh Castle.

and highly esteemed for the table. Upon the approach of spring it leaves our shores for more northern countries, and by the middle of March the whole have retired. Its summer retreats extend to very high latitudes, as it is known to breed in Iceland, Spitzbergen, Greenland, &c. as well as in Lapland, the northern parts of Russia, and northern Asia. It also inhabits Hudson's Bay, and other polar districts of the American Continent. During its equatorial or winter migration, besides the shores of our own island, it is abundant in Holland, France, and parts of Germany. I cannot but notice here, for the lovers of the ridiculous, the wonderful accounts given by GERARD, the celebrated botanist, and some others, of the origin of this and the next species from a kind of shell (the *Lepas Anatifera* of LINNÆUS); yet are they curious, as exhibiting the great ignorance and consequent credulity of the age in which they were written. I refer my readers therefore to GERARD's Herbal, page 1588, edit. 1636; or to the extracts from it, and other authors, contained in the twelfth volume of SHAW's Zoology, under the head of the *Common Bernicle*. In the present species, and in the Brent Goose, we have a slight modification in the form of the bill, which is shorter in proportion to the size of the birds than in the geese already described; and the lamellæ of the upper mandible are in a great measure concealed by the reflected edges of the bill. These differences, however, are so trifling, as scarcely to warrant a generic separation, but they lead the way to other forms where such separation appears necessary. The Bernicle is a bird of handsome shape, and, from the length of its neck and tarsi, stands high upon the ground. When caught alive, it soon becomes very tame, and thrives well upon grain, &c.; but no attempts have been hitherto made to domesticate the breed.

PLATE 44. represents this bird in about three-fourths of the natural size.

Forehead, cheeks, and throat, white. Between the bill and eyes is a narrow black streak. Crown of the head, neck, and breast, black. Back, wing-coverts, and scapulars, fine french-grey, passing into brownish-black towards the tips of the feathers, which are white. Greater quills greyish-black, except the lower part of the outer web in each, which is light grey. Upper tail-coverts white. Tail black. Under parts silvery-white; undulated upon the flanks with ash-grey. Tibiæ clothed with black feathers. Bill black. Legs and toes black. Tubercle near the bend of the wing prominent.

General
description.
Adult.

The female resembles the male bird.

The young of the year have the streak between the bill and eye much broader than the adults; and the forehead is spotted with black. The under parts are not of so pure a white; and the flanks are of a more uniform ash-grey. The upper parts of the body are darker, and the tips of the feathers are margined with reddish-white. Legs black, tinged with reddish-brown.

Young.

BRENT GOOSE.

ANSER BRENTA, Flem.

PLATE XLV.

Anser Brenta, *Flem. Br. Anim.* 7. 127. sp. 199.

Anas Bernicla, *Linn. Syst.* 1198. 13.—*Gmel. Syst.* 1. 513.—*Lath. Ind. Orn.* 2. 844. sp. 32.—*Wils. Amer. Orn.* 8. 145. pl. 72. f. 1.

Bernicla Brenta, *Steph. Shaw's Zool.* 15. 46.

Brenta, *Briss. Orn.* 6. 304. 16. p. 31.—*Raii Syn.* 130. 8.—*Will.* 275. t. 69.

Le Cravant, *Buff. Ois.* 9. pl. 87.

Oie Cravant, *Temm. Man. d'Orn.* 23. 24.

Ringel Gans, *Bechst. Naturg. Deut.* 4. 911.—*Meyer, Tasschenb.* 2. 558.

Brent or Brand Goose, *Penn. Br. Zool.* 2. 579, No. 270.—*Arct. Zool.* 2.

No. 478.—*Albin's Birds*, 1. pl. 93.—*Will. Angl.* 360.—*Lath. Syn.* 8. 467.

27.—*Lewin's Br. Birds*, 7. pl. 243.—*Mont. Orn. Dict.* 1. & Sup.—*Bewick's*

Br. Birds, ed. 1826, t. 300.—*Wils. Amer. Orn.* 8. 145. pl. 92. f. 1. mas.

Brent Bernicle, *Steph. Shaw's Zool.* 12. 46.

PROVINCIAL.—Rat or Road Goose, Clatter Goose, Horra Goose, Juink Goose, Ware Goose.

Periodical
visitant.

THIS species is, like the preceding one, a winter visitant; inhabiting the oozy bays and shores of the eastern and southern coasts of the kingdom, where a supply of the marine vegetable food upon which it subsists is principally produced. Upon the Northumbrian coast a very large body of these birds annually resorts to the extensive muddy and sandy flats that lie between the mainland and Holy Island, and which are covered by every flow of the tide. In this locality tolerably sized flocks usually make their appearance in the early part of October, which are increased by the repeated arrival of others till the beginning of November, at which time the equatorial movement of the species in this latitude seems to be completed. This part of the coast appears to have been a favourite resort of these birds from time immemorial, where they have always received the name of *Ware Geese*, given to them, without doubt, in consequence of their food consisting entirely of marine vegetables. This

Food.

I have frequently verified by dissection; finding the gizzard filled with the leaves and stems of a species of grass that grows abundantly in the shallow pools left by the tide, and with the remains of the fronds of different algae, particularly of one which seems to be the *Laver* (*Ulva latissima*). These were mixed with a considerable quantity of sharp sand, but without any portion of animal or shelly matter; although WILSON states that they feed occasionally upon small uni-valve and bivalve mollusca. In this haunt they remain till the end of February, when they migrate in successive flocks, as the individuals happen to be influenced by the season, and before April the whole have disappeared. When they depart, the same procedure as that mentioned by WILSON (in his *American Ornithology*) takes place; the flock about to migrate rises high into the air by an extensive spiral course, and then moves off seaward in a northerly direction. When feeding (which they do at the ebb of the tide), or moving from one place to another, they keep up a continual hoarse cackling, or, as it is termed, *honking* noise, which can

be heard at a great distance, and has not unaptly been compared (when so heard) to the cry of a pack of hounds. They are at all times extremely watchful, and can only be approached within gunshot by the person of the shooter being concealed. This is effected in the southern parts of the kingdom by means of a flat-bottomed boat, so built as to draw very little water, and whose gunwale barely rises above the surface, armed with a large fowling-piece, that traverses the half-deck upon a swivel. In this boat the fowler lies flat, and directs its motion by a paddle or small oar, till he comes within range of the flock; when he fires, either as they float upon the water, or just as they rise. Great havoc is sometimes made in this way, not only amongst the Brent Geese, but amongst Widgeon, and other kinds of wild fowl, as we learn from Colonel HAWKER's amusing treatise, to which I refer my readers, and where they will find every direction necessary for this particular kind of sporting*. Previous to this mode of shooting being adopted, all the Brent Geese, and different species of Ducks upon our northern coast, were killed by moonlight, by the fowlers placing themselves in various parts of the lake, seated on a bundle of straw, and patiently waiting for the approach of the wild fowl, as they flew about in quest of feeding places. The destruction, however, in this way was very limited; the number that fell to the gun of an individual during the whole season perhaps did not equal the fruits of a single day's sport with the boat and its swivel gun. Like the rest of the genus, the Brent Goose never dives in search of food; but that this does not arise from any incapability of submersion, as has been supposed, is evident from the ease with which it plunges, and the great distance it can go under wa-

* Upon the Holy Island sandy flats, where the above method was introduced, about two years ago, by a man from the Norfolk coast, I am credibly informed that twenty-two Brent Geese were killed and secured at one discharge during this season, 1831.

ter, when winged or otherwise wounded, rendering it in such case a very difficult bird to secure. Its geographical distribution is confined to the northern parts of Europe and North America. During the winter, besides the coasts of our own islands, it is spread along those of Holland, France, and parts of Germany, as well as of the more northern kingdoms. Occasionally, and under peculiar circumstances, these birds have appeared in certain parts in unusual numbers. Thus in the years 1739 and 1765, from the long continuance of a strong north wind, they became so abundant on the coast of Picardy, and committed such depredations on the young corn in that district, that the inhabitants were compelled to rise *en masse*, in order to destroy them; and on the English coast, during the same seasons, where food failed the congregated numbers, they became so weak as to be knocked down with sticks and stones. The same thing occurred in the severe winter of 1803, when they were innumerable about Sandwich, and so much reduced in condition, as frequently not to be able to rise after alighting. Their polar or summer migration is directed to very high latitudes, where they breed, and rear their numerous young in quiet security. The nest is formed of vegetable materials, in the swamps of those desolate regions, and they lay ten or twelve white eggs. The trachea of the male bird is slightly enlarged a little below the glottis, and again near its entrance within the merry-thought (*os furcatorius*); below which it becomes contracted, forming a narrow cartilaginous tube. The bronchi are funnel-shaped, and composed of entire solid rings. When captured alive, this goose may soon be rendered very tame (as I have found from experience), and being a bird of handsome figure, and light carriage, is a considerable acquisition on large pieces of water. No steady attempts, however, appear to have been yet made to increase the breed in a domestic state, though as an article of food it is superior to most of the *Anatide*, and equally valuable in the quality of its feathers and down. When

Nest, &c.

tame, it eats readily all kinds of grain, as well as grass, and other vegetable diet.

PLATE 45. represents this bird of the natural size.

Bill black. Irides brown. Legs and feet black, with a tinge of reddish-brown. Head, neck, and upper part of breast black. On each side of the neck, about half way down, is a patch of white. Back, scapulars, and wing-coverts, clove-brown; the feathers having their tips and margins paler. Under parts of the body french-grey; with the feathers margined paler. Vent, upper and under tail-coverts, white. Lower part of back, and rump, black. Quills and tail black.

General
description.

Adult.

The female is less than the male bird, but similar in plumage.

The young of the year have not the white patch upon the neck; and this part, the head, and upper part of the breast, are blackish-grey. The back and wing-coverts are tipped with brown; and the legs are paler, or more inclining to brown than in the older birds.

Young.

RED-BREADED GOOSE.

ANSER RUFICOLLIS, Pall.

PLATE XI.VI.

Anser ruficollis, Pall. Spic. 6. 21. t. 4.—Flem. Br. Anim. 1. 128.

Anas ruficollis, Gmel. Syst. 1. 511.—Lath. Ind. Orn. 2. 841. sp. 23.

Bernicla ruficollis, Steph. Shaw's Zool. 12. 53. pl. 43.

Anas torquata, Gmel. Syst. 1. 514. sp. 70.

Oie à Cou roux, Temm. Man. d'Orn. 2. 326.

Die rothals Gans, Bechst. Naturg. Deut. 4. 916.—Meyer, Tasschenb. 2. 561.

Red-breasted Goose, Penn. Arct. Zool. 2. 571.—Lath. Syst. 6. 455.—Lewin's Br. Birds, 7. pl. 241.—Mont. Orn. Dict. 1.—Bewick's Br. Birds, ed. 1826, p. t. 280.

Red-breasted Bernicle, Steph. Shaw's Zool. 12. 53. pl. 43.

In this beautiful species the bill is very short, being much less than that of the Bernicle; but as it seems, as far as I

Rare visitant.

can judge from dried skins (never having had the opportunity of examining a fresh specimen), to possess all the essential characters, I have accordingly retained it amongst the other species of the genus *Anser*.—It is known in Britain only as a rare visitant, when driven by tempestuous weather out of the usual course of its migrations. But five or six instances of its capture are on record: the first occurred near London in the year 1776, and the specimen passed into the hands of Mr TUNSTALL, and from it (now in the Museum at Newcastle-upon-Tyne) the figure in the present work has been taken;—in the second instance, this bird was caught alive near Wycliffe, and was kept by the above mentioned gentleman for some years in confinement;—a third, shot near Berwick-upon-Tweed, was sent to Mr BULLOCK, in whose museum it remained till the dispersion of that celebrated collection;—the others, according to Mr STEPHENS, were killed in the severe winter of 1813, in Cambridgeshire, but unfortunately, from the ignorance of the captors, were lost to the purposes of science. This species is a native of the Arctic Regions of Northern Asia, and during its polar migration is said to retire to Siberia and the confines of the Frozen Ocean, where it breeds and rears its young. According to TEMMINCK, it is abundant about the mouths of the rivers Ob and Lena at the above season. During the winter it migrates southward to the warmer districts of Russia, and to Persia; and is plentiful about the shores of the Caspian Sea, but of very rare occurrence in any part of Europe. I am unable to give any detailed account of its habits, but they may be presumed similar to those of its near allies, the Bernicle and Brent Geese; and that it feeds on vegetable diet appears evident from its flesh being pronounced free from any fishy taste, and in great esteem for the table.

PLATE 46. Figure of the natural size; from a specimen originally in the Wycliffe Museum, but now in that of the Natural History Society of Newcastle-upon-Tyne.

Forehead, crown of the head, list down the back of the neck, chin, throat, and band, extending upwards to the eye, black. Between the bill and eye is a large spot of white. Behind the eye, and surrounding a large patch of orange-brown on each side of the neck, is a list of white; which is extended farther, and forms a line of division between the orange-brown and black of the lower part of the neck. Front of the lower part of neck and breast fine orange-brown; the latter margined by a list of black, and another of white. Immediately before the shoulders is a second bar of white. Mantle, belly, wings, and tail, black. Abdomen, vent, thighs, upper and under tail-coverts, white. Greater wing-coverts black, margined with white. Bill reddish-brown, with the nail black. Legs blackish-brown, with a reddish tinge.

General
description.

SUBFAMILY CYGNINA.

GENUS CYGNUS, MEYER. SWAN.

GENERIC CHARACTERS.

BILL equally wide throughout its length, much higher than broad at the base, where it is swollen or tuberculated; depressed towards the tip; nail of the upper mandible deflected, and covering that of the lower, which is flat. Both mandibles laminato-dentate, with the lamellæ placed transversely, and nearly hidden from view when the bill is closed.

Nostrils oblong, lateral, placed in the middle of the bill.

Neck long. Wings long and ample.

Legs placed behind the equilibrium of the body, short. Feet four-toed, three before and one behind; the front ones entirely webbed, the hinder toe small and free.

Plumage thick, close, and adpressed; that upon the neck soft and downy.

These birds, so conspicuous amongst the Anatidæ by their superior size and graceful appearance upon the water, are distinguished from the Geese by the form of the bill, which is as wide towards the tip as at the base, approaching nearer in shape to that of the Ducks. The neck is also more elongated, and the backward position and comparative shortness of the legs, by indicating an increased power of swimming, with a diminished activity in walking on land, brings them into closer connexion with the natatorial tribes of the family. Their food principally consists of the roots, stems, and leaves of aquatic plants; the former of which they are enabled to reach in water of some depth by their great length of neck. With them the intestines and cæca are very long; and although the trachea does not possess any labyrinth or ampulla, in some species it performs certain convolutions before it enters the lungs. Their flight, from the full development of wing, is strong and rapid.

WHISTLING SWAN.

CYGNUS FERUS, Ray.

PLATE XLVII.

- Cygnus ferus*, *Raii* Syn. 136. A.—*Will.* 272. t. 69.—*Briss.* Orn. 6. 292. pl. 28.—*Steph.* Shaw's Zool. 12. 10. pl. 37.—*Flem.* Br. Anim. 1. 126. sp. 194.
- Anas Cygnus* (ferus), *Linn.* Syst. 1. 194.
- Anas Cygnus*, *Gmel.* Syst. 1. 501.—*Lath.* Ind. Orn. 2. 833. sp. 1.
- Cygne sauvage*, *Buff.* Ois. 9. 3.—*Id.* Pl. Enl. 913.
- Cygne à bec jaune*, ou sauvage, *Temm.* Mun. 2. 828.
- Le Cygne à bec noir*, *Cuv.* Reg. Anim. 1. 529.
- Der Singschwan*, *Bechst.* Naturg. Deut. 4. 330.—*Meyer*, Tasschenb. Deut. 2. 498.
- Wild Swan*, *Penn.* Br. Zool. 2. 562. No. 264.—*Will.* (Angl.) 356. t. 69.—*Edw.* Glean. t. 150.—*Rennie's* Mont. Ornith. Dict.—*Bewick's* Br. Birds, ed. 1826. p. t. 265.—*Flem.* Br. Anim. 1. 126. sp. 194.
- Whistling Swan*, *Penn.* Arct. Zool. 2. 469.—*Lath.* Syn. 6. 433.—*Id.* Sup. 272.—*Id.* Sup. 2. 341.—*Levin's* Br. Birds, 6. pl. 236.—*Mont.* Orn. Dict. and Sup.—*Shaw's* Zool. 12. 10. pl. 37.

PROVINCIAL—Elk, Hooper, Hooping Swan.

THIS handsome and stately bird is known in the Orkneys and Western Islands of Scotland as a regular winter visitant ; but in England its appearance is not so certain, being governed by the state of the season. Should the winter prove generally mild, such as we have just experienced (1831-2), few, if any, Swans are seen ; as, under such circumstances, they are able to obtain subsistence in higher latitudes. It is only, therefore, when the winter sets in with unusual rigour in the northern parts, and the lakes and rivers (their source of food) become entirely frozen over, that they extend their equatorial migration to more temperate climates. In such seasons they usually appear with us in small flocks, from five perhaps to thirty together, that take up their abode upon the lakes, rivers, and inundated meadows ; and where, if unmolested, they will remain till March, or the approach of spring, when they again wing their way to the regions of the north. On referring to the seasons in which Swans have appeared in more than usual numbers in this country, they will all be remembered as remarkable for the severity and long continuance of frost. Thus in 1784-5, and in 1788-9, these birds were remarkably numerous, and extended their flight to unwonted southern latitudes, having visited Champagne and other parts of France, as well as some of the larger rivers beyond the Alps. In the winters of 1813, 1814, 1819, 1823, 1828, and 1829, all more or less severe, they were very commonly met with in different parts of England, and occasionally destroyed in great numbers, as may be gathered from the statement of Mr COOKE, in his description of the Whistling Swan, viz. that in 1823, sixty of these birds were exposed for sale in London in one day *. It is probable that some of these might belong to the recently discovered species, *Cygnus Bewickii*, which there is now

* To this scientific account of the present bird I refer my readers. It is entitled "A Letter to M. MILBANK, Esq. descriptive of the Whistling Swan, and of the peculiar Structure of its Trachea," and published in 1823.

every reason to suppose has visited this country for many years, although constantly confounded with the present species, to which, in outward appearance, it bears a very close resemblance, being only rather inferior in size. The geographical distribution of these birds embraces the northern regions of Europe, Asia, and America, in all of which they are abundantly found. In summer they retreat to very high latitudes to breed and rear their young, and those inhabiting our parallel of latitude are then to be met with scattered over Norway, Iceland, Lapland, Spitzbergen, &c. In Asia they are numerous in Kamschatka, Northern Siberia, and other polar districts of that continent, and they are described as abounding on the unfrequented borders of the upper lakes of North America; and are mentioned in Captain FRANKLIN'S Journal as amongst the first birds of passage that come from the south upon the breaking up of the long polar winter. In these dreary regions, where man finds but a precarious subsistence by fishing and the chase, the return of the Swan is anxiously looked for, on account of the various benefits it confers; its flesh and eggs affording wholesome and invigorating food, and its skin, when dressed with the down, supplying a variety of clothing, of remarkable softness and warmth. A few pairs, it is said, occasionally remain upon some of the outer Orkney Islands, and there breed upon the margins of the fresh water lochs; but these can only be considered as stragglers, the great body retiring (as I have above remarked) to higher latitudes for that purpose.—The nest of the Wild Swan is formed of the withered parts of reeds, rushes, and other aquatic herbage, to a considerable thickness*; and the eggs, from five to seven in number, are of a pale oil-green or greenish-white colour. In six weeks the young are excluded, but it is upwards of three months before they become fully fledged. In Iceland, to the inha-

Nest, &c.

* Captain LYON, in his Private Journal, during the voyage of discovery under Captain PARRY, mentions the nest of a Swan found upon Winter Island. He describes it as formed of small pieces of peat, in size five feet ten inches by four feet ten inches, and two feet in height.

bitants of which the down and feathers are of great value, not only for domestic comfort, but as an article of barter, they are hunted down and killed in great numbers in the month of August, at which time the old birds are unable to fly, from having cast their quill-feathers. At this season the natives assemble in bodies, in the places where Swans are most abundant, attended by dogs, and mounted upon small but active horses, purposely trained to pass over bogs and through marshy soil; the chase then commences, and many are ridden down; but the greater number are caught by the dogs, which always seize by the neck, a mode of attack that causes the bird to lose its balance and become an easy prey. The fabulous account of the sweet singing of the Swan before death, which gave rise to so much beautiful allusion in the writings of the ancient poets, is now universally exploded*; and the voice of the present species (oftener heard than that of any other) is generally allowed, when produced singly, to be piercing and harsh. It consists of two notes, and has (not unaptly) been compared to the discordant union of the modulation of the Cuckoo, with the scream of the Gull, or the sound of the clarionet in the hand of a beginner. Some, however, still assert, that when on the wing in large flocks, or resting on the water, their united cries, becoming softened by distance, are not unpleasant to the ear. This I can readily believe, for, under such circumstances, I have even found the incongruous mixture of sound from Gulls, Guillemots, and other tribes of sea fowl (when collected about their breeding stations) mixed with the whistling of the breeze, and the murmurs of the intervening water, to reach the ear not very dissimilar to that of a band of martial music; and I have before observed, in the account of the Brent Goose, that the tumultuous cackling of those birds

* See PENNANT's description of the Tame Swan in his "British Zoology," where he has treated the subject with the classical knowledge and taste for which he was conspicuous, and traced the source from whence this fable appears to have originated.

(harsh as it may be individually), when heard at a distance, has been compared to the enlivening cry of a pack of hounds. To the known effect produced by the association of ideas must doubtless be attributed the great pleasure which the Icelanders display upon hearing the cries of the Swan, which they compare to the notes of a violin; but as a writer justly observes, this is not to be wondered at, for they hear them at the termination of a long and dreary winter, when the return of this bird to their shores is the earliest harbinger of spring, foretelling a speedy thaw and release from a tedious confinement. In dimensions and weight the present species is commonly less than *Cygnus Olor*, in its tame or semi-domesticated state, though adult males are sometimes met with that equal the average size of the latter. It may, however, always be distinguished from it externally by the different form and colour of the bill, the position of the legs, difference of carriage, along with other peculiarities; and internally, the conformation of the trachea exhibits a remarkable difference. This part, instead of being a strait and simple tube, as in *Cyg. Olor*, is prolonged, and enters a large cavity hollowed out of the keel of the sternum, generally to the depth of three and a-half or four inches, where it is doubled back upon itself like a trumpet; and which inflection is always *vertical*, never forming a *loop* or horizontal bend, as in *Cygnus Bewickii*. After its egress from this cavity, the tube is again turned upwards, and then, undergoing a considerable diminution in diameter, terminates exactly upon the ridge of the sternum in a compressed bony lower larynx, or bone of divarication, shaped like the mouth-piece of a bassoon, and to which the bronchi, measuring upwards of three inches in length, are attached. The flight of the Swan is usually at a great elevation, and in a straight line; and as its wings are long and ample, its progress, with a favouring breeze, is astonishingly rapid, and has been reckoned to exceed sometimes 100 miles in an hour. This velocity renders it a difficult bird to shoot on wing, where so much allowance

is necessary to be made, according to the supposed distance of the object. When caught alive, it soon becomes very tame, as seen in the instance mentioned by MONTAGU ; and I have also, in several cases, known it survive for a long time, and thrive well, when provided with plenty of water ; it refuses, however, to associate with the common or mute species.—The food of the Swan consists of the roots, leaves, Food. and stems of aquatic plants, in obtaining the former of which its length of neck is of essential service, which it has also the power of keeping submerged for a long time ; but as this is done by the mute species perhaps in an equal degree, it cannot be attributed to the peculiar form of the trachea, an idea that has been suggested by different ornithologists. In the present species, the elastic process or joint, in the upper mandible, which enables it to be opened to a considerable extent, is very prominent, and more easily distinguished than in many others of the Anatidæ, in whom it is hidden by the knob, or by the feathers of the brow. When swimming, the neck is borne erect, at a right angle with the body, and seldom arched, as is the custom of the Common Swan ; but in walking (which is performed in a heavy and awkward manner), the head is lowered, and the neck reclines over the back, in order to preserve the equipoise of the body.

PLATE 47. Represents this bird in scarcely one-third of the natural size.

Average length five feet ; breadth from seven to eight. General description.

Bill four inches long from the tip to the brow, black, and having the basal part covered with a lemon-yellow-coloured cere, that, extending backwards, encircles the eyes. Head and nape of the neck generally speckled with pale orange-yellow ; the rest of the plumage in adults being pure white. Legs black. Adult.

The young birds are of an uniform pale grey, with the cere and naked skin around the eyes pale flesh-red. Young.
Legs reddish-grey.

BEWICK'S SWAN.

CYGNUS BEWICKII, Yarrell.

PLATE XLVII. *

Cygnus Bewickii, *Yarrell* in Trans. Linn. Soc. 12. 445.—*Selby* in Trans. Nat. Hist. Soc. of Northumberland, Durham, and Newcastle, vol. 1. 18.
 —*Jardine* and *Selby's* Illust. of Orn. pl. 95.
 New Species of Swan, *Wing*. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, 1. 1.
Bewick's Swan, *Jardine* and *Selby's* Illus. of Orn. pl. 95.

Periodical
 visitant.

THIS recently discovered species, in size about one-third less than the Whistling Swan, is also amongst the number of our British winter visitants; and though less numerous as a species than the other, is occasionally met with in England during every severe winter. The merit of the first discovery of the present species is due to Mr RICHARD WINGATE of Newcastle-upon-Tyne, who, in consequence of the observations he had made upon two specimens of Wild Swans killed in the neighbourhood, in the winter of 1828–9, read a paper before the Literary and Philosophical Society of that town, stating the peculiarities he had noticed in these birds, as well in outward form, as in internal structure, and also his opinion that the differences exhibited were of sufficient importance to entitle them to rank as a distinct species, both from the preceding one and also from the tame Swan (*Cygnus Olor*). These remarks induced other naturalists to investigate the subject, and Mr YARRELL, whose knowledge as an ornithologist, and whose discrimination as a comparative anatomist, stand deservedly high, soon discovered additional proofs of the correctness of Mr WINGATE's views, and, at his suggestion, the appellation of *Cygnus Bewickii* was conferred upon the species. Since that period, several specimens of the bird have been obtained, and its distinguishing characters have been illustrated and fully described by Mr

YARBELL in a paper published in the sixteenth volume of the Linnean Transactions; and also in another, contained in the first volume of the Transactions of the Natural History Society of Northumberland, Durham, and Newcastle, to which I beg to refer my readers. In external appearance the present bird bears a very close resemblance to the Whistling Swan, and might, upon a cursory view, be easily mistaken for a small variety of it, as must have frequently happened previous to the observations made by Mr WINGATE; for the detection of several specimens that have remained for many years in private collections, under the above designation, shew that the species is not a new arrival, but may have been in the habit of visiting this country, in connexion with the former, for an indefinite period, although not in such numbers as its companion. The peculiarity of the internal structure had previously attracted some notice; for MONTAGU, in the Supplement to his Ornithological Dictionary, under the article *Whistling Swan*, gives an accurate description of the trachea and sternum of a bird of this new species; and which, from having been observed in a male specimen, he, without extending his examination, or noticing its other peculiar features, supposed indicative of, and confined to, the male of the species then under his consideration. The external characters distinctive of the new species, are, in the first place, being about one-third less than the usual size of the preceding (the average length of *Cyg. Bewickii* being three feet ten inches, and the breadth six feet; whilst that of *C. ferus* is five feet, and the breadth upwards of eight); secondly, in the colour and form of the bill, which differs at its base from that of the Whistling Swan, and, in old birds, has at the junction of the upper mandible with the cranium a considerable tubercle or knob; and, thirdly, in the number of the tail-feathers, the present species having only *eighteen* and the other *twenty*. The wings are also shorter, and do not cover so large a portion of the tail; the legs are of a deeper black, and the neck, besides being comparatively

longer, is more slender than in the Whistling Swan. In internal conformation, particularly as regards the trachea and sternum, the differences are very striking. In the new species, the cavity of the sternum, instead of being restricted to a depth of three inches, or three and a quarter (as I have before stated it to be in the Whistling Swan), is frequently found to extend to five and a half or six inches, and, after reaching the posterior extremity of the keel, to occupy in addition a portion of the lateral part of the sternum; and here the trachea, instead of making a *vertical flexure*, as in the preceding species, is forced to take a *horizontal bend*, and to form a loop, as it were, in the excavated part of the sternum. The keel of *C. Bewickii*, also, is not so deep as that of the other, and consequently the two portions of the trachea within the arched cavity are brought closer together. Other marked differences are observable in the trachea of the new species after its egress from the cavity of the sternum, as compared with the corresponding parts of the other. In it the trachea, after describing the bend, on its egress from the keel, enters into the cavity of the thorax for upwards of two inches, and is then attached by the lower larynx (or bone of divarication) to the bronchial tubes; in the Whistling Swan, on the contrary (as I have previously stated), no portion of the trachea enters within the thorax, but the lower larynx reaches just as far as the anterior ridge of the sternum, upon which it rests obliquely. The dimensions of the trachea where it joins the lower larynx, and that part itself, are very dissimilar in the two species, the present one having the diameter as large at that junction as at any other part of the tube, and the larynx short, broad, and but slightly compressed. In the size and form of the bronchi, also, there is considerable difference, their length and diameter being scarcely equal by one-half to those of the Whistling Swan, and the rings of which the tubes are composed being of a different shape. In addition, the sternum of *C. Bewickii* is much broader in comparison to the size of the bird, and the

ridge of the keel, instead of narrowing downwards as in the other species, gains breadth as it approaches to the posterior extremity of the keel, or where the cavity widens and occupies a lateral portion of the sternum. In its habits the present bird resembles the Whistling Swan, and is, like it, a native of the Arctic Regions of Europe, Asia, and *America*, as it would appear to be the *Lesser Swan* mentioned by HEARNE (in his "Journey to the Northern Ocean") as visiting Hudson's Bay in summer.—It feeds upon aquatic vegetables and seeds. As might be expected from the form of the lower larynx, and that part of the trachea adjoining it, its voice is much weaker than that of the preceding species. Food.

PLATE 47.* Represents the *Cyg. Bewickii* of nearly one-half the natural size.

Bill, as far as the nostrils, black; the base orange-yellow; and the upper mandible having a tubercle or knob, varying in size according to the age of the bird. Forehead and region of the eyes with numerous specks of a pale orange-yellow. In adults, the rest of the body pure white, and in the young pale-grey. Tail wedge-shaped, and consisting of eighteen feathers. Legs black. General description.

SUBFAMILY ANATINA.

GENUS TADORNA, FLEM. SHIELDRAKE.

GENERIC CHARACTERS.

Bill shorter than the head, higher than broad at the base, depressed or concave in the middle, with the tip flattened and turning upwards, nearly of the same breadth throughout; dertrum, or nail, abruptly hooked. Upper mandible laterally grooved near the tip; under mandible much narrower than the upper one, and, when closed, hidden by the deflected

tomia of the upper. Both mandibles having prominent transverse lamellæ. Nasal fosse near the base of the bill; nostrils oval, lateral, pervious.

Wings of mean length, acute, tuberculated; with the second quill-feather the longest.

Legs of mean length, with the tibiæ naked for a short space above the tarsal joint. Tarsus rather longer than the middle toe. Toes four, three before and one behind; the front ones rather short, and entirely webbed; hind toe barely touching the ground with the tip of the nail. Claws slightly hooked, the inner edge of the middle one being dilated.

The Shieldrakes are distinguished from the other nearly allied genera by the form and curvature of the bill. From the length and position of their legs (being placed almost in the centre of the body), they are active upon land, walking and running with apparent ease; and their general contour is handsome. Their alliance with the Geese seems to be maintained by the intervention of the Egyptian Goose (*Chenelopex Egyptiaca*), which, in many points, both of outward form and internal structure, shews a decided approach to this genus. They are the inhabitants of the coast, and also of the rivers and lakes of the interior, feeding on vegetables, seeds, insects, and molluscous animals. Their nests are made in the clefts of rocks, in the deserted burrows of rabbits, &c., and sometimes in the hollows of decayed trees. The trachea of the male birds possess a labyrinth (*ampulla*) at the divarication, consisting usually of two membranous bladders of a very delicate texture. The sexes are nearly similar in plumage.

COMMON SHIELDRAKE.

TADORNA VULPANSER, Flem.

PLATE XLVIII.

- Tadorna Vulpanser, Flem.* Br. Anim. 1. 122. sp. 185.
Tadorna Bellonii, Steph. Shaw's Zool. 12. 72. pl. 45.
Anas Tadorna, Linn. Syst. 1. 195. 4.—*Gmel.* Syst. 1. 506. 4.—*Lath.* Ind. Ornith. 2. 854. sp. 56.—*Raii* Syn. 140. A. 1.—*Will.* 278. t. 70.—*Briss.* Ornith. 6. 344. 9. t. 33. f. 2.
Ia Tadorne, Buff. Ois. 9. 205. t. 14.—*Id.* Pl. Enl. 53.
Canard Tadorne, Temm. Man. d'Ornith. 2. 834.
Brandente, Bechst. Naturg. Deut. 4. 976.—*Meyer,* Taschenb. Deut. 2. 534.
Shieldrake, Br. Zool. 2. 589. No. 278.—*Aret.* Zool. 2. 972. D.—*Will.* (Angl.) 363. t. 70. 71.—*Albin,* 1. t. 94.—*Lath.* Syn. 6. 504. 51.—*Id.* Sup. 275.—*Lewin's* Br. Birds, 7. pl. 248.—*Mont.* Ornith. Dict. 2. and Sup.—*Bewick's* Br. Birds, ed. 1826. p. t. 341.
Burrow Shieldrake, Steph. Shaw's Zool. 12. 72. pl. 45.
Common Shieldrake, Flem. Br. Anim. 1. 122. sp. 45.
 PROVINCIAL.—*Bergander,* Shieldrake, Burrow Duck, Pirennet, Sly-goose, St George's Duck, Stockannet, Skelgoose, Skeeling-goose.

THIS bird, distinguished by its parti-coloured plumage and graceful shape, is one of the few amongst the *Anatidæ* that can be called indigenous, being found at all seasons of the year upon various parts of the British coast. It is strictly a maritime species, as it is very rarely seen on the rivers or lakes of the interior of the country, and it has even been doubted by some, whether it can long exist without having access to salt water. A sufficient refutation of such an idea is the well known fact of its thriving well when confined to fresh water ponds. The Shieldrake continues in its native haunts through the whole year, and when once paired, seems to live with the same mate till accident or death dissolves the connexion. MONTAGU remarks that the males do not appear to attach themselves to the females till the second year, when they have acquired the adult plumage; and I have also observed this to be the case on the Northumbrian coast, where these birds are common upon such parts as present a barrier of sand-hills, the chosen breeding resort of this species. In

addition, however, to those that reside permanently on our shores, we are visited by considerable numbers during their periodical flights to and from the more northern countries of Europe. In the beginning of March I have sometimes seen hundreds together upon a favourite locality, where they have continued for a few days, and then departed for higher latitudes, this being the time of return from their equatorial or winter migration. The species is distributed throughout the greater part of Europe, and is found as far to the northward as Iceland, where it is only a summer visitant. The rabbit-burrows, with which the sand-hills of the coast are so often perforated, are the places that the Shieldrake usually selects for nidification; and in such of these as have been deserted by the original inhabitants, the females form their nests of bent grass and other dry vegetable materials (sometimes as far as ten or twelve feet from the entrance), lining them with fine soft down plucked from their own breasts. They lay from twelve to sixteen eggs, each pure white, or with a very faint tinge of green, and of an oval form, being equally rounded at both ends. These are incubated for thirty days before the exclusion of the young, this being the period common to most of the *Anatidæ*. During this time the male bird keeps an attentive watch in the immediate vicinity of his mate, and when hunger calls her from her charge, he instantly supplies her place, and covers the eggs till her return. As soon as the young are hatched, they are conducted, or, as more frequently happens, carried in the bill by the parents to the water's edge, and upon this their native element they immediately launch, seldom quitting it till fully fledged and well able to fly. BEWICK observes, that if the family in their progress from the nest to the sea should happen to be interrupted by an intruder, the young ones seek the first shelter, and squat close down, whilst the parents, directed by the instinctive feeling that so universally prevails throughout the feathered race at this interesting period, adopt the same kind of stratagems as the Partridge, Wild Duck, &c. feigning

lameness and inability of flight, in order to attract attention and divert the pursuit to themselves. As the Shieldrake is much prized as an ornamental appendage to large pieces of water, for its handsome form and varied plumage, the inhabitants of the coast are in the practice of watching the old birds to their nests during the early part of the breeding season, and digging up the eggs. These are placed under a hen or tame duck ; but great care and attention is requisite in rearing the young, and it is seldom that above three or four survive from a hatching of a dozen eggs. They soon become tolerably tame, and answer to the call of the person who feeds them ; when fully fledged, however, being very active birds, they are apt to stray away, and if left with their pinions unmutated, generally in time fly entirely off, though I have known them return, in two or three instances, after an absence of many months. They are seldom known to breed in a state of confinement ; one instance, and that in my own neighbourhood, has come to my knowledge, and MONTAGU mentions another case, in which the birds, after a lapse of many years, and in a very favourable situation (having the range of an extensive canal), produced a brood of nine. The defect rests, in his opinion, with the female, as she constantly appears coy, although strongly urged by the other sex, who seem to have all the necessary inclination ; and this, he adds, appears more likely, as the Shieldrake has been known to breed with the female of the Common Duck, in Lord Stanley's menagerie. Such a cross, however, is rarely effected, and only takes place under peculiar circumstances, as I have never been able to obtain a mixed progeny, even when the species have been kept together for several years. Upon the approach of spring, the fleshy knot at the base of the upper mandible of this bird, and which, during the autumn and winter, is scarcely perceptible, begins to swell, and acquires a beautiful *crimson* hue, and when at its full development, is nearly as large as a marble. At this season, also, the males pay particular court to the females, erecting

themselves, and uttering a shrill whistling note, repeated with great quickness, and attended with a frequent movement of the head; they are also very jealous and irascible at the approach of any other bird to their mates.—The food of the Shieldrake, in its wild state, consists of marine vegetables, molluscous shell-fish, insects, &c.; but when domesticated, it thrives well upon grain, and indeed upon the usual fare of poultry. The trachea of the male bird is furnished, at the divarication, with a curious labyrinth, composed of two thin membranous bladders, of which the one on the right side is the largest; the surfaces of both are uneven, and their texture so delicate, as to be indented or broken by a very slight pressure. In the young drakes, previous to the acquisition of the mature plumage, it is very small, but after that period soon attains its full development.

PLATE 48. Represents the adult male of the natural size, taken in spring, when the fleshy tubercle at the base of the bill becomes much enlarged.

General
description.
Adult.

Head and upper part of the neck blackish-green, shewing glossy reflections as opposed to the light. Lower part of the neck, sides of the body, wing-coverts, lower part of the back, upper tail-coverts, and basal part of the tail, pure white. A broad pectoral band of fine orange-brown extends upwards, and forms a mantle of the same colour. Scapulars, mesial abdominal list, greater quills, and end of the tail, black. Secondaries, with their outer webs, rich bronzed-green, and forming a speculum; and the three tertials next to them, with part of their outer webs, rich orange-brown. Under tail-coverts sienna-yellow. Bill bright venous blood-red. Legs and toes crimson-red.

The female is similar to the male bird in markings, but the colours are not so deep and bright, and she is always much less.

Young.

The young, previous to the first moult, differ considerably

from the adults. The bill and legs are of a pale flesh-red. The forehead, cheeks, fore part of the neck, and the whole of the under parts are pure white. The crown, nape, and back part of the neck are blackish-brown. Wing-coverts having the feathers tipped with deep-grey, giving them a mottled appearance. Feathers forming the speculum tipped with white.

RUDDY OR CASARKA SHIELDRAKE.

TADORNA RUTILA, Steph.

PLATE XLVIII**.

Tadorna rutila, Steph. Shaw's Zool. 12. 71.

Anas Casarka, Linn. Syst. 3. App. 224.—*Gmel.* Syst. 1. 511.—*Lath.* Ind. Ornith. 2. 844. sp. 24.

Anas cana, Lath. Ind. Ornith. 2. 840. sp. 22.

Anas rutila, Pall. Nov. Com. Petrop. 14. 579.

Canard Kasarka, Temm. Man. d'Ornith. 2. 832.

Ruddy Goose, Lath. Syn. 6. 456.—*Id.* Sup. 273.

Grey-headed Goose, Brown, Illus. Zool. 104. t. 41.

Grey-headed or Ruddy Goose, Fox, Syn. Newcas. Mus. 142. No. 328.

Ferruginous Duck, Bewick's Br. Birds, ed. 1826. p. t. 313.

THE only British specimen of this rare and handsome Rare visitant. duck, previous to the one from which the present figure and description are taken, is now in the Newcastle Museum, and its authenticity has been clearly established by Mr Fox, in his Synopsis of that part of the collection formerly known as the *Allen* or *Wyckliffe* Museum. This bird was shot, it appears, at Bryanstone, near Blandford in Dorsetshire, the seat of Mr PORTMAN, in the severe winter of 1776; the same frost of which season, as Mr Fox remarks, produced the Red-breasted Goose (also in that collection), a bird of equal rarity, and, like the present one, a native of the eastern parts of Europe. It was supposed by many, that PENNANT's *Ferruginous Duck* referred to this species, and it was figured as such by BEWICK, in a late edition of his well-known work.

It is, however, now generally allowed, that the bird described under that name in the British Zoology must have been *Fuligula* (*Anas*) *Nyroca* (the Nyroca or White-eyed Pochard), the *Ferruginous Duck* of MONTAGU; the size, weight, colour of the bill and legs, as well as that of the plumage, so far as detailed by PENNANT, agreeing exactly with the female of this species. The specimen from which the present figure is taken was killed in the south of England, and was kindly forwarded to me by Mr GOULD, for the purposes of this work, and is now in my collection, having been presented to me by the gentleman into whose possession it passed from Mr GOULD. In Europe, the Casarka inhabits Russia and other eastern districts, and is occasionally met with (during its migrations) in Hungary and Austria. It is also scattered over a great part of Asia, being found in Persia and India, from which latter country I have received specimens of it. The species appears to be the same in Africa, the specimens from the Cape of Good Hope, and other parts, in no respect differing, either as to colours or markings, from the European and Asiatic. In figure, this bird greatly resembles the Common Shieldrake, but stands rather higher upon its legs. It does not seem, however, to have any fleshy tubercle at the base of the bill, like that bird, so that Mr STEPHENS and others have erred in including that specific peculiarity amongst their generic characters. In habits, it is said to be similar to our native species, and a reference to the preceding article will point out the places that it also chooses for nidification, with this difference only, that the Casarka is rarely found on the sea-coast, but breeds upon the borders of the larger rivers of Russia and the other eastern countries it inhabits, laying from eight to ten white eggs.—It feeds upon aquatic plants, insects, and the roe and small fry of fishes.

Nest, &c.

Food.

PLATE 48 **. Figure of the natural size.* Length about twenty-three inches.

Forehead, cheeks, and chin pale ochreous-yellow. Region of the eyes, crown of the head, and nape of the neck greyish-white. Neck, as far as the collar, ochreous-yellow, tinged with orange. Collar about half an inch in width, black, glossed with green. Breast, mantle, scapulars, and under parts of the body gallstone-yellow, tinged with orange, being deepest upon the breast. The feathers upon the upper parts of the body have their margins paler, and the ends of the long tertials pass into sienna-yellow. Lesser and middle wing-coverts white; secondary quills green, glossed with purple, and forming a large speculum; greater quills black. Lower part of the back, upper tail-coverts, and tail, black, glossed with green. Bill, legs, and feet black.

The female has not the black collar; her colours are not so bright, and the feathers upon the back are finely speckled with grey.

General
description.

GENUS SPATHULEA, *FLEM.* SHOVELLER.

GENERIC CHARACTERS.

BILL longer than the head, semi-cylindrical at the base, strait, depressed in front of the nostrils; the tip much dilated and spoon-shaped, terminated by a small hooked nail or dertrum. Mandibles laminated; the laminae very fine, long, and like bristles, those of the upper mandible at its posterior part projecting much beyond its margins. Under mandible narrower than the upper, and having its front part, when closed, entirely hid by the projecting and deflected sides of the upper mandible. Nasal fosse small, and situated near the base of the bill. Nostrils oval, pervious. Tongue broad, fleshy, bristly, with the tip triangular.

Wings long, acuminate, with the first and second quills nearly equal in length.

Tail consisting of fourteen feathers, and slightly wedge-shaped.

Legs slender, short; feet of four toes, three before and one behind, the front ones webbed, the hind toe small and free.

In this genus the laminated structure of the bill (which prevails to a greater or less degree throughout the whole of the *Anatidæ*), acquires its highest development, and presents the appearance, in both mandibles, of a fine pectinated or ciliated appendage, accompanied with a great dilatation and depression of the front part of the bill, which is *spathulate* or spoon-shaped. It thus becomes an instrument beautifully adapted for detecting and separating the food of the species from the mud and water in which it is contained. The lamellæ of the two mandibles, when brought nearly into contact, aided by the fleshy papillous tongue, forming altogether a perfect sieve or strainer, and enabling the bird to reject through the interstices the adventitious matter, retaining only what is fit for sustenance. From possessing this structure (so essentially necessary to the habits of the family), in such a superior degree, the present may be considered as the typical genus, not only of its particular group, but of the whole of the *Anatidæ*. Another characteristic it displays (also prevalent in all the typical representatives of the greater divisions), is the wide extent of its geographical distribution; the common species (*Spath. clypeata*) being found in all the quarters and in a variety of climates of the globe. These birds are the inhabitants of lakes and marshy districts, procuring their food, which principally consists of small worms, insects, and larvæ, by sifting the mud with their curiously formed bill. Mr STEPHENS, in the twelfth volume of Shaw's General Zoology, has introduced, amongst the Shovellers, two species of Ducks which certainly do not appear to belong to that genus, viz. *Anas Rubida* of Wilson's American Ornithology, and *Anas Labradoræ* (Pied Duck) of the same author.

COMMON SHOVELLER.

SPATHULEA CLYPEATA, Flem.

PLATE XLVIII *. MALE and FEMALE.

- Spathulea clypeata*, *Flem.* Br. Anim. 1. 123. sp. 186
Rynchapsis clypeata, *Shaw's Zool.* 12. 115. pl. 48.
Anas clypeata, *Linn.* Syst. 1. 200. 19.—*Gmel.* Syst. 1. 518.—*Lath. Ind.*
 Orn. 2. 856. sp. 60.—*Wils.* Amer. Orn. 8. 87. pl. 67. f. 7. Male.—*Briss.*
 Orn. 6. 329. 6. t. 32. f. 1.
Anas Platyrhynchos, *Raii* Syn. 144. 13.
Anas Platyrhynchos altera, *Raii* Syn. 143. A. 9.—*Will.* 283.
Anas rubens, *Gmel.* Syst. 1. 519.—*Lath. Ind.* Orn. 2. 856. sp. 62.
 Canard Souchet, ou le rouge, *Buff.* Ois. 9. 191.—*Id.* Enl. 971. et 972.
 Male et femelle.—*Temm.* Man. d'Orn. 2. 842.
 Löffle ente, *Bechst.* Naturg. Deut. 4. 1101.—*Meyer*, *Taschenb.* Deut. 2.
 543.
 Shoveller, Br. Zool. 2. 596. No. 280.—*Arct. Zool.* 2. No. 489.—*Will.* (Angl.)
 370. and 371.—*Albin's Birds*, 1. t. 97. 98.—*Lath.* Syn. 6. 509. 55.—
Mont. Ornith. Dict.—*Bewick's Br. Birds*, ed. 1826, f. t. 345.—*Flem.* Br.
 Anim. 123. sp. 186.—*Shaw's Zool.* 12. 115. pl. 48.—*Wils.* Amer. Orn. 8.
 67. pl. 67. f. 7.
 Red-breasted Shoveller, Br. Zool. 2. 597. No. 281.—*Lath.* Syn. 6. 512. 57.
 Young and old males in the Summer change.

PROVINCIAL.—Blue-winged Shoveller, Kertlutock, Broad-Bill.

THE Shoveller has generally been considered a winter visitant, but from the remarks of Mr YOUELL (in the thirteenth volume of the Transactions of the Linnæan Society), it appears to breed in the marshes of Norfolk, as he had the young hatched from a number of eggs obtained from thence. It has also been known to breed in the neighbourhood of the Tweed; and in my collection is a male bird, that was killed in July, after having undergone the curious change in the colour of the feathers that assimilates the males of most of the species of this subfamily to the females, after the sexual intercourse has taken place. The Shoveller is, however, at no time plentiful in Britain, and is reckoned amongst the rarer members of the present family. It is a shy and timorous bird, and not easily domesticated, even under the most

favourable circumstances, as Mr YOUELL, out of between twenty and thirty eggs that were hatched, only succeeded in rearing two birds, both of which even died before they were twelve months old. He contradicts the assertion repeated by most of our compilers, that the bill of the young, when first hatched, is *as broad as the body*, and quite out of proportion to the size of the bird; stating, that at a few days old, the bill is not larger than that of a common duckling, though in three or four weeks it acquires its peculiar form and relative proportion.—This species inhabits the marshes, lakes, and rivers of the interior of the country; is seldom found on the sea-coast, and then only where the beach is of an oozy

Food. nature.—Its principal food consists of small worms, and the larvæ of insects which it sifts from the mud, by its singular spoon-shaped bill, each mandible of which is bordered with very delicate and close-set lamellæ, which WILSON (with his usual aptness of illustration) has compared to a weaver's reed. These fit beautifully into each other, forming a kind of sieve, by which the bird is capable of separating what is fit for food, and rejecting through their interstices the mud

Nest, &c. and other superfluous matter.—It breeds in the central parts of marshes, forming its nest in the tufts of coarse herbage common to such situations, and laying from ten to twelve eggs of an oil-green colour. The lower larynx, or bone of divarication, of the male bird, is slightly enlarged, and furnished on the left side with a small thin and bony bladder, rather irregular in shape, and not above one-third larger than that of the Teal. The trachea is nearly of equal diameter throughout its length. The intestines are long, measuring from nine to ten feet. The flesh of the Shoveller is very delicate and well-flavoured, and, in consequence, highly esteemed for the table. With respect to its geographical distribution, this species is widely disseminated on the continental parts of Europe, being abundant in France, Holland, Germany, and other states. It is also found throughout a great part of Asia; and in America, where it appears in no

respect different, its range extends over both portions of that continent.

PLATE 48*. represents the male and female of the natural size.

Head and upper part of the neck deep hair-brown, glossed with duck-green. Lower part of the neck, breast, scapulars, and sides of the rump, white. Back blackish-brown; the feathers being margined with grey, and glossed with green. Lesser wing-coverts, and outer webs of some of the larger scapulars, bright greyish-blue. Larger coverts having white tips, and forming a bar across the wings. Speculum rich duck-green. Tertiaries long and acuminate, of a rich purplish-black; the central parts of the feathers having a white streak. Quills hair-brown. Tail, with the middle feathers, hair-brown, edged with white; the outer ones entirely white. Upper and under tail-coverts black, glossed with duck-green. Belly and abdomen rich orange-brown, with zigzag lines of black upon the flanks and vent. Legs orange-red. Bill about three inches long, brownish-black, large, and dilated at the end.

General
description.
Male.

The whole of the upper parts of the body deep clove-brown; the feathers being barred and margined with reddish-white. Lesser wing-coverts similar to those of the male. Under parts pale reddish-brown.

Female.

The male bird, towards the end of summer, has the cheeks, sides of the neck, and throat, reddish-white, speckled with hair-brown. Crown of the head, and nape of the neck black, with the feathers margined paler, and slightly glossed with green. Back and scapulars deep clove-brown, margined with pale yellowish-brown. Breast a mixture of yellowish-brown and reddish-white; the feathers having circular bars and spots of black. Under tail-coverts yellowish-white, with lanceolate streaks of hair-brown. Belly and abdomen a mixture of yellowish and orange-coloured brown.

GENUS CHAULIODUS, SWAINSON. GADWALL.

GENERIC CHARACTERS.

Bill as short as the head, depressed throughout its length, as broad as high at the base, rather narrowing towards the tip, which has a small dertrum or nail. Both mandibles laminated; the laminæ of the upper one projecting beyond the margins of the bill.

Nostrils lateral, near the base of the bill, oval and pervious.

Wings long and acuminate. Tail wedge-shaped.

Feet with four toes; three before and one behind; the front ones webbed; the hind toe small and free.

The form of the bill, and the great development of its laminated structure (as shewn in the proportionate size of the laminæ of the upper mandible), combined with the peculiar habits, and comparatively sombre plumage of the species, has induced me to separate the Gadwalls from the succeeding genera, comprising the *Ducks*, the *Teals*, and the *Widgeons*. In this, however, I only adopt the views of a more able ornithologist, for Mr SWAINSON, in the second volume of the Northern Zoology, and also in a paper upon the typical perfection of the *Anatidæ* (published in the Journal of the Royal Institution), has made it a *subgenus* of his genus *Anas* (of which he considers the Shoveller as the type), and which term is precisely of the same import as that of *genus* in the systematic arrangement I have adopted, being the denomination of the lowest group of species. Although the form of the bill differs much from that of the Shovellers, having lost the dilatation of its extremity, so conspicuous in the other, and assumed in a great measure the proportions of the next genus (*Anas*), the Gadwalls still shew a near af-

finitly to the Shovellers, in the length and delicacy of the laminae of the upper mandible; which, in the European species, project upwards the tenth of an inch beyond the margin. They are also removed in their habits from the other members of this subfamily, being (if I may so use the term) more decidedly *aquatic*. They excel in diving, and have recourse to it, not only when wounded (as some of the others do), but as the means of escape whenever disturbed; seldom taking wing for that purpose, although in rapidity of flight they surpass most of the Ducks. In addition to the species known in Europe, another has been found in Africa, which Mr SWAINSON has named *Chaul. Capensis*; and in this new one the middle tail-feathers are rather elongated, shewing a nearer approach to the Teals and Widgeons.

COMMON GADWALL.

CHAULIODUS STREPERA, Swainson.

PLATE LI. & LI *. FIG. 1.

Chauliodus Strepera, Swainson, in Journ. Royal Inst. 2. 19.

Anas Strepera, Linn. Syst. 1. 200. 20.—Gmel. Syst. 1. 520.—Briss. Orn. 6. 339. 8. t. 33. f. 1.—Lath. Ind. Orn. 2. 859. sp. 69.—Wils. Amer. Orn. 8. 130. pl. 71. f. 1. Male.—Shaw's Zool. 12. 103.—Flem. Br. Anim. 1. 124. sp. 188.

Anas Platyrynchos rostro nigro, Ray, 145.—Will. 287.

Le Chipeau ou Ridenne, Buff. Ois. 9. 187. t. 12. fem.—Id. Pl. Enl. 958. Male.

Canard Chipeau ou Ridenne, Temm. Man. d'Ornith. 2. 837.

Schwatterente, Bechst. Naturg. Deut. 4. 1096.—Meyer, Tasschenb. Deut. 2. 533.

Gadwall or Grey, Penn. Br. Zool. 2. 603. No. 288.—Arct. Zool. 2. 575. I. —Will. (Angl.) 374. t. 72.—Lath. Syn. 6. 515. 61.—Lath. in Trans. Lin. Soc. 4. 111. pl. 13. f. 7. and 8. (Trachea).—Lewin's Br. Birds, 7. pl. 258.—Mont. Orn. Dict. 1.—Bewick's Br. Birds, ed. 1826, p. t. 348.—Shaw's Zool. 12. 103.—Flem. Br. Anim. 1. 124. sp. 188.—Wils. Amer. Orn. 8. 130. pl. 71. f. 1.

THE Gadwall is rather a rare visitant with us, and is seldom seen, except about the period of its vernal migration, Rare visitant.

when some few pairs occasionally visit the marshes of Norfolk and the adjoining counties, being probably driven to that coast of our island by adverse winds, out of the usual line of their flight. This seems to be farther to the eastward, as the bird is plentiful upon the continental parts of Europe, in our parallels of latitude. Thus, according to TEMMINCK, it abounds in Holland, breeding in the great marshy tracts of that country, as well as in other northern districts. The specimens I have been enabled to see in a fresh state were all met with in the poulterers' shops in London, during the months of April and May, and those now in my collection were thus obtained. Though other writers have mentioned it as being a winter visitant to our shores, I have never seen it except at the period above stated; and MONTAGU, who probably, in consequence of this idea, only looked for it during the winter, never succeeded in obtaining a recent specimen. The species is widely distributed throughout the northern and eastern parts of Europe, and is also found in North America, having been described by WILSON as a winter visitant to various parts of the United States. These birds frequent the lakes, rivers, and marshes of the interior, particularly those abounding in reeds and other rank aquatic herbage, and seldom resort to the sea-coasts. They are strong on wing, and in rapidity of flight surpass most of the other nearly allied species, but are more remarkable for their quickness in diving, and their great propensity to it as the method of avoiding danger, or even observation.—They

Nest, &c. breed in the most covered parts of the marshes, and lay from ten to twelve eggs each, of a pale oil-green colour.—Their

Food. food consists of insects and their larvæ, aquatic plants, and seeds.—The voice of the Gadwall is not unlike that of the Common Wild Duck, only rather hoarser. The trachea of the male bird is slightly enlarged in its diameter at about two-thirds of its length, but becomes narrower as it approaches the lower larynx; this consists of a large bony arch, with a globular, or rather pyriform, bladder attached

to the left side, being in shape much like that of the Common Mallard, but smaller. The flesh of this species is held in high estimation.

PLATE 51. represents the Male Gadwall of the natural size.

Head and upper part of the neck speckled with hair-^{General description.}

^{Male Bird.} brown and white, passing upon the crown of the head

into yellowish-brown. Lower part of the neck, breast, and mantle black, with concentric semicircles of white. Scapulars, flanks, and sides beautifully rayed with zig-zag lines of white and blackish-brown. Lesser wing-coverts grey, marbled with yellowish-white; the middle coverts deep orange-brown, succeeded by others of a glossy black. Speculum having the lower part black and the upper white. Tertiaries grey, tinged with yellowish-brown. Quills hair-brown. Lower part of the back, rump, upper and under tail-coverts black, glossed with purplish-blue. Tail wedge-shaped; the two middle feathers hair-brown with paler edges, the lateral ones tinged with yellowish-brown, margined and tipped with white. Belly and abdomen greyish-white, speckled with hair-brown. Bill one inch and three quarters long, brownish-black. Irides brown. Legs and toes orange-red.

PLATE 51 *. Fig. 1. The Female.

Crown of the head glossy black, mixed with greyish-white. ^{Female.}

Over the eyes is a lightish streak, intermixed with black. Chin and throat pure white. Cheeks yellowish-white, streaked with hair-brown. Breast pale buff, with the central parts of the feathers deep-brown. Upper parts deep brown, the feathers being margined with pale buff; with the flanks and sides the same. Belly and abdomen white. Lesser wing coverts hair-brown, margined paler. Speculum as in the male. Tail marbled with brown, buff and white.

GENUS ANAS, LINN. DUCK.

GENERIC CHARACTERS.

Bill longer than the head, depressed through its whole length, broad, strait from before the nostrils to the tip, nearly equally broad throughout. Mandibles dentato-laminate, with the laminæ of the upper mandible scarcely projecting beyond the margin. Nostrils lateral, oval, situated near the base of the bill. Wings of mean length, acuminate. Tail short, slightly wedge-shaped; with the middle feathers curling upwards in some species.

Feet with four toes, three before and one behind; the front ones webbed, the hind toe small and free.

The birds of this genus, of which the Common Wild Duck may be considered the representative, differ from the Shovellers in the general form of the bill, which is not expanded near the tip, and in the shortness of the laminæ of the upper mandible, which do not project beyond its margins. In this latter respect they also differ from the Gadwalls. They possess a wide range, being met with in most parts of the globe; and it is from the common species (*Anas Boschas*) that we have obtained our useful domestic Duck, now expanded into so many varieties.

COMMON WILD DUCK.

ANAS BOSCHAS, Linn.

PLATES I. & L*. MALE AND FEMALE.

- Anas Boschas*, *Linn. Syst.* 1. 205. 40.—*Gmel. Syst.* 1. 538.—*Lath. Ind. Orn.* 2. 850. sp. 49.—*Wils. Amer. Orn.* 3. 121. pl. 70. f. 7.—*Shaw's Zool.* 12. 84.—*Flem. Br. Anim.* 1. 123. sp. 187.
- Anas fera*, *Briss. Orn.* 6. 318. 4.
- Le Canard sauvage, *Buff. Ois.* 9. 115. t. 7. & 8.—*Temm. Man. d'Ornith.* 2. 835.
- Le Canard ordinaire, *Cuv. Reg. Anim.* 1. 537.
- Gemeine Ente, *Bechst. Naturg. Deut.* 4. 1046.—*Meyer, Tasschenb. Deut.* 2. 538.
- Wild Duck, or Mallard, *Penn. Br. Zool.* 2. 591. No. 279.—*Arct. Zool.* 2. 494.—*Lath. Syn.* 6. 489.—*Id. Sup.* 2. 351.—*Id. in Trans. Linn. Soc.* 4. 112. pl. 13. f. 10. (Trachea).—*Albin's Birds*, 2. pl. 10.—*Lewin's Br. Birds*, 7. pl. 240.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, 2. p. t. 325.—*Shaw's Zool.* 12. 84.
- Var. α . *Anas domestica*, *Linn. Syst.* 1. 206. 40. B.—*Raii Syn.* 150. 1.
- Boschas major*, *Briss. Orn.* 6. 326. A.
- Tame Duck, *Albin's Birds*, 2. pl. 99.—*Lath. Syn.* 6. 494.—*Bewick's Br. Birds*, ed. 1826. pl. t. 334.
- Var. β . *Anas adunca*, *Linn. Syst.* 1. 206.—*Gmel. Syst.* 1. 528.
- Anas rostro incurvo*, *Briss. Orn.* 6. 311.—*Raii Syn.* 150. 2.—*Will.* 180.
- Hook-billed Duck, *Albin's Birds*, 2. t. 96. 97.—*Will. (Angl.)* 381. t. 75.—*Lath. Syn.* 6. 497. D.—*Bewick's Br. Birds*, 2. ed. 1826, p. 338.

AMONGST the various species of the present beautiful sub-family of the *Anatidæ*, few display a more chaste and delicately pencilled plumage than the Mallard in his matured state. This, however, is very apt to escape the degree of attention it deserves, from our becoming so much accustomed to the appearance of his domesticated brethren; who, though frequently retaining all the colours and distinctive markings of the original stock, cannot, with their dull and heavy appearance, compensate for the sprightly look and graceful form that will strike the closer observer as distinctive of this bird in a state of nature. This is an indigenous species, and, although banished by the advance of agriculture from vast tracts of country that formerly provided it with suitable breeding retreats, still inhabits the shores of

our lakes and rivers, with such upland boggy grounds as have not yet been submitted to the system of drainage that has of late years so altered the face of the country. These changes in the character of the soil, have of course produced a great, and, I may add, annual decrease of our native breed, which must progressively happen as long as the causes producing it are in operation. It is probable, therefore, that in a few years the Common Wild Duck will become comparatively rare as an indigenous species, except in some few localities that may bid defiance to agricultural improvement. In such case, the deficiency will, during the winter months, be supplied in part by additional arrivals from the more northern countries, to which this bird will naturally resort for the purpose of reproduction, under more favourable auspices *. The estimation in which the flesh of the Wild Duck, both for delicacy and flavour, has ever been held at the table, has caused various devices to be resorted to for its capture, of which none appear to be so effectual as the decoy †. It is by this method that the greatest part of the birds annually sent to the London market are taken, and its practice is allowed from October till February. In ten of these decoys in the neighbourhood of Wainfleet, it is recorded that 31,200 wild fowl were taken in one season, of

* Some idea of the quantity of Wild Ducks formerly produced in England, may be formed from PENNANT's account, viz. that at a single driving of the fens of Lincolnshire, before the young had taken wing, and when the old birds were in the moult, one hundred and fifty dozens had been taken! The same district at the present time does not produce perhaps a dozen broods in the year.

† For an accurate description of a decoy, I refer my readers to that by Mr BONFELLOW, given in the second volume of "*BEWICK's British Birds*" (under the article *Wild Duck*), and also copied into "*SHAW's General Zoology*," and "*WILSON's North American Ornithology*." WILLOUGHBY and PENNANT also give descriptions of this device, but not so detailed as that of Mr BONFELLOW. For an illustration and description of the French mode of shooting from a hut, and for some particulars relative to decoy-birds, see Colonel HAWKER's amusing "*Instructions to Young Sportsmen*."

which more than two-thirds were of the present species. WILSON, in his North American Ornithology, has described several other modes of taking these birds that are in use in that country, and mentions also that singular and ingenious method adopted in India and China, where the sportsman, covering his head with a calabash or wooden vessel, wades into the water, and, keeping only his head thus masked above it, advances towards and mixes with the flock, who feel no alarm at what they look upon to be a mere floating calabash. He is thus enabled to select his victims, whom he seizes by the legs, and pulling them under water, fastens them to a girdle with which he is equipped, thus carrying off as many as he can stow away, without exciting distrust and alarm amongst the survivors. The Wild Duck is widely distributed through most of the temperate and arctic regions of the globe; in the former of which it is only a winter visitant, as the great body of these birds retire even beyond our parallel of latitude for the purposes of reproduction. In all the countries where it has been met with, its qualities for domestication seem to have been recognised and turned to advantage; and, though from long continuance of the breed in a state of confinement, great variety in colour, size, &c. has been produced, the male bird constantly retains the peculiar specific distinction of the curled feathers of the tail. In China and other eastern countries, great numbers of ducks are hatched by artificial means, by the eggs being placed in tiers in boxes filled with sand, and subjected to the necessary degree of heat, upon a floor of bricks. The ducklings are fed at first with a mess composed of boiled craw-fish, or crabs, cut in small pieces, and mixed with rice. In about a fortnight they are able to shift for themselves, when they are placed under the guidance of an old stepmother, who leads them at stated times to feed, to and from the *sampane* (or boat) in which they are kept, and which is moved about by the owner to places likely to afford a plentiful supply of food. In a natural state, Wild Ducks always pair, though

in a state of domestication they are observed to be polygamous. This pairing takes place towards the end of February or beginning of March, and they continue associated till the female begins to sit, when the male deserts her, joining others of his own sex similarly situated; so that it is usual to see the Mallards, after May, in small flocks by themselves. About this time also they begin to undergo the changes of colour that assimilate them in a great degree to the female, and which is retained till the period of the autumnal or general moult. The care of the young thus devolves entirely upon the Duck, and is not partaken by the male, as WILSON and others appear to think; and this fact I have had frequent opportunities of verifying, as many Wild Ducks annually breed upon the edges of our Northumbrian moors, and the young broods are of course frequently under inspection as they descend the rivulets to the lower marshy parts of the country.—The nest of the Wild Duck is generally made in some dry spot of the marshes, and not far from water, to which she can lead her progeny as soon as hatched. It is composed of withered grass, and other dry vegetable matter, and usually concealed from view by a thick bush, or some very rank herbage; though other and very dissimilar situations are occasionally chosen, as several instances have been recorded where they have deposited their eggs on the fork of a large tree, or in some deserted nest. Such an instance once occurred within my knowledge, and near my own residence, where a Wild Duck laid her eggs in the old nest of a crow, at least thirty feet from the ground. At this elevation she hatched her young; and, as none of them were found dead beneath the tree, it is presumed she carried them safely to the ground in her bill, a mode of conveyance known to be frequently adopted by the Eider Duck. When disturbed with her young brood, the Wild Duck has recourse to various devices to draw on herself the attention of the intruder, such as counterfeiting lameness, &c. which manœuvres are generally successful; and

Nest, &c.

in the mean time the young ones either dive or secrete themselves in the bushes or long herbage, so that it rarely happens that more than two or three are captured out of a large brood. The eggs are from ten to fourteen, of a bluish-white; and the Duck, during incubation, when she quits the nest for food, is in the habit of covering them with down and other substances, in all probability from an instinctive idea of concealing them from observation, and which practice is pursued by many birds as well of this as other families. The trachea of the Mallard is furnished at its lower extremity with a labyrinth * (not unlike that of the Gadwall in shape and position, but considerably larger), yet the tube itself is of nearly equal diameter throughout its length.—The Food. food of the Wild Duck consists of insects, worms, slugs, and all kinds of grain, &c.

PLATE 50. Represents the Mallard, of the natural size.

Head and neck glossy duck-green, with the lower part surrounded by a narrow collar of white. Breast deep chocolate-red. Under parts greyish-white, with fine zigzag transverse lines of grey. Mantle chestnut-brown, with the margins of the feathers paler. Scapulars greyish-white, rayed with zigzag brown, those next to the wing being rich brown, rayed with black. Lower part of the back, rump, and under tail-coverts velvet-black, with green reflections. The four middle tail-feathers black, and curled upwards; the rest hair-brown, deeply margined with white. Lesser wing-coverts hair-brown, tinged with yellowish-brown. Greater coverts having a bar of white, and being tipped with velvet-black. Speculum rich glossy Prussian blue, passing into black, and tipped with white. Quills pale hair-brown. Bill	General description. Male.
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* For illustrations and descriptions of the different tracheas of the Duck, &c. I refer my readers to Mr YARBELL's excellent paper, published in the 15th volume of the Transactions of the Linnean Society.

honey-yellow, with a greenish tinge. Legs and toes orange.

PLATE 50 *. The Female, also of the natural size.

Female.

Head and neck dirty cream-yellow, with numerous streaks of brown, which are darkest upon the crown. Chin and throat pale buff. Upper parts umber-brown, of different shades, with the feathers margined with cream-coloured white. Lesser wing-coverts pale hair-brown, tinged with grey. Speculum purplish-blue, passing into velvet-black, with the tips of the feathers white. Quills pale hair-brown. Breast and under parts yellowish-brown, spotted and streaked with darker brown. Legs orange.

The young males resemble the females till after the autumnal moult.

GENUS QUERQUEDULA, *RAI*. TEAL.

GENERIC CHARACTERS.

BILL as long as the head, elevated at the base, strait, semi-cylindrical, nearly of equal breadth throughout; tip obtuse, with the dertrum or nail small and hooked; mandibles laminated, and having the laminæ almost entirely concealed by the deflected margins of the upper mandible. Nasal fosse small, lateral, near to the culmen of the bill. Nostrils oval, pervious.

Wings acute, with the first and second quills of nearly equal length.

Tail wedge-shaped, with the two middle feathers more or less elongated, and acute.

Legs having the tarsus rather shorter than the middle toe. Feet with four toes, three before and one behind; the front ones webbed; the hind toe small and free.

This genus is distinguished from the two preceding ones by the form of the bill, which is longer and proportionably narrower, assuming a semi-cylindrical shape. The laminae of the bill are also short, being in most species scarcely visible below the deflected edges of the mandible. By many recent systematists, the Pintail (*Anas acuta* of LINNÆUS) has been separated from the other Teals, on account of the greater elongation of the two middle-tail feathers, and made the type of a genus, called *Dafila* by Dr LEACH. But as the bill of the only known species displays the same form as that of the Common Teal, and the structure of its trachea is also similar, I have ventured, though not without hesitation, to retain it in the present genus. The Teals are, for the most part, of inferior size to the species of the preceding groups, some of them being amongst the smallest of the *Anatidæ*. Their form is rather slender, and, from their great length of wing and development of tail, they fly with strength and rapidity. They inhabit the interior parts of the country, and are but seldom found upon the sea-shores.

COMMON PINTAIL.

QUERQUEDULA ACUTA, Mihi.

PLATE XLIX. & PLATE LI. * FIG. 2.

- Anas acuta*, Linn. Syst. 1. 202. 28.—Gmel. Syst. 1. 528.—Lath. Ind. Ornith. 2. 864. sp. 81.—Wils. Amer. Orn. 8. 75. pl. 68. f. 3. male.—Flem. Br. Anim. 1. 124. sp. 189.
- Anas caudacuta*, Raii Syn. 147. A. 5.—Will. 289. t. 72.
- Anas longicauda*, Briss. 6. 639. 16. t. 34. f. 1, 2.
- Dafila caudacuta*, Stephens, Shaw's Zool. 12. 127. pl. 49.
- Canard à longue queue, Buff. Ois. 9. 197. t. 73.—Id. Pl. Enl. 954.—Temm. Man. d'Orn. 2. 838.
- Spiessente, Bechst. Naturg. Deut. 4. 1116.—Meyer, Tasschenb. Deut. 2. 536.
- Sea Pheasant or Craiker, Will. (Angl.) 376. t. 73.—Albin's Birds, 2. t. 94, 95.—Flem. Br. Anim. 1. 124. sp. 189.
- Pintail, Br. Zool. 2. No. 282.—Arct. Zool. 2. No. 500.—Lath. Syn. 526. 72.—Id. Sup. 2. 354.—Lewin's Br. Birds, 7. 261.—Mont. Ornith. Dict. and Sup.—Bowick's Br. Birds, ed. 1826.—Wils. Amer. Orn. 8. 72. pl. 68. f. 3. male.

Periodical
visitant.

Food.

THE slender neck, pheasant-like tail, and superior lightness of model in this Duck, have bestowed upon it an appearance of elegance unknown to most of the other species. It is with us a regular winter visitant; and considerable numbers are annually taken in the decoys of Lincolnshire, Norfolk, &c. MONTAGU says that it is most abundant in the north of England and Scotland, and especially in the Orkney Islands. This assertion, however, I must in part contradict, as the result of long observation tells me it is of *rare occurrence* in the *northern counties* of England; and the same may be said of the southern districts of Scotland, which Dr FLEMING confirms in his History of British Animals. With respect to the Orkneys, I cannot speak so confidently, although it appears probable, that what had been represented to him as the present species, was in fact the Long-tailed Duck (*Harelda glacialis*), which is found in great numbers during the winter in the bays of this group of islands. The Pintail has a wide geographical range, being met with in all the northern parts of Europe, Asia, and America, and retires in the summer to breed in high latitudes. Its equatorial migration extends as far as Italy; and during its periodical flight to the southward, it occurs abundantly in Holland, France, Germany, and other continental states. The marshes of the interior parts of the country, and fresh-water lakes, are its usual places of resort, being *rarely* found upon the sea-coast.—Its food consists of insects and their larvæ, the seeds of aquatic plants, particularly of some species of *Epilobium*, and vegetables. It is of a shy and timorous disposition; and in North America, where it is plentiful, often disappoints the wild-fowl shooter, by giving the signal to its numerous associates before he can advance within gunshot. Upon rising, when alarmed, the birds of this species cluster confusedly together, and (as WILSON observes), if within distance, give the sportsman a fair opportunity of raking them advantageously. They seldom dive, seeming only when wounded to have recourse

to that manœuvre, in which case, the bird coming up under the bow of the boat, frequently endeavours to conceal itself, by moving round with it. Like many others of the *Anatidæ* (particularly of the species belonging to this group), the plumage of the male Pintail, towards the end of summer, or after the sexual intercourse is completed, undergoes a remarkable change, and becomes very like that of the female. This appears to me to be an actual change of colour in the feathers, rather than a renewal of them; and the same change is observable in the Mallard, and the males of the Teal, Wigeon, &c. It also prevails, if not in all, at least in some species of the genus *Mergus*, as I have noticed it in *Mergus serrator*. The Pintail is easily domesticated, but rarely breeds in confinement. A hybrid progeny has been produced between this bird and the Wigeon; and, to such an extent do the sexual propensities seem to be affected in this state, by difference of food, and other causes, that MONTAGU mentions a male Pintail in his menagerie, which, for want of the other sex, shewed an inclination to pair with a female Scaup, and even with a Bernacle Goose. He farther adds, that one of them did pair with a tame duck, but that none of the eggs (upwards of twenty in number) proved to be fecundated. Its usual notes are soft and subdued, but, according to WILSON, it also frequently makes a chattering noise. The season of courtship is indicated in the male by suddenly raising himself upright in the water, and bringing his bill close to his breast, uttering at the same time a low soft note. This gesticulation is often followed by a jerk of the hinder part of the body, which is then also thrown above the water. The labyrinth of this species consists of a round long bladder, situated on the left side of the arch of the lower larynx; its upper surface being nearly even with the top of the arch, but its lower one reaching much below it. Its texture is very fine, and in young birds may be indented by slight pressure; but becomes brittle in adults.—The nest of this species is made in the rushes and strong herbage of marshes, Nest, &c.

and the eggs are from eight to ten, of a bluish-white. Its flesh is sweet and well-flavoured.

General description. **PLATE 49.** represents the Male bird of the natural size.

Male. Head, chin, and throat, dark hair-brown, glossed behind the ears with auricula-purple. Lower part of the neck, and two streaks running upwards to the hind part of the head, white. Nape and back part of the neck deep brown. Breast, belly, and abdomen, white. Flanks and thighs with fine transverse black lines. Vent and under tail-coverts velvet-black. Back beautifully marked with alternate waving lines of black and greyish-white. Scapulars black. Tertiaries long and acuminate, velvet-black, margined with yellowish-white, or sometimes with pearl-grey. Lesser wing-coverts deep smoke-grey. Larger coverts tipped with pale reddish-brown. Speculum blackish-bronzed green, tipped with white. Greater quills hair-brown. Tail having the two middle feathers elongated, acuminate, black; and the lateral ones hair-brown, margined with white. Bill, from the gape, two and a quarter inches long, black. Legs and toes blackish-grey.

PLATE 51.* Fig. 2. The Female, also of the natural size.

Female. Forehead and crown pale chestnut-brown, streaked with black. Cheeks and neck pale ochreous yellow, speckled with black. Chin and throat plain cream-yellow. Sides of the breast hair-brown, barred and tipped with white. Mantle and scapulars amber-brown, barred and varied with pale buff-orange and white. Tertiaries hair-brown, margined with white. Lesser and greater wing-coverts pale broccoli-brown, edged and tipped with white. Speculum hair-brown, glossed with green; the feathers having white tips. Quills hair-brown. Tail deep hair-brown, with imperfect bars of white and pale buff-orange; the two middle feathers exceeding the rest in

length about half an inch. Belly and abdomen yellowish-white, indistinctly marbled with pale broccoli-brown. Under tail-coverts white, speckled with chestnut-brown of different shades. Bill greyish-black. Legs and toes grey, tinged with brown.

COMMON TEAL.

QUERQUEDULA CRECCA, Steph.

PLATE LIV. MALE and FEMALE.

- Querquedula Crecca*, Steph. Shaw's Zool. 12. 146.
Anas Crecca, Linn. Syst. 1. 204. 33.—Gmel. Syst. 1. 532.—Lath. Ind. Orn. 2. 872.—Linn. Br. Anim. 1. 125. sp. 192.—Wils. Amer. Orn. 8. 106. pl. 70. f. 4. male.
Querquedula secunda, Aldrov. Rar. Syn. 147. A. 5.—Will. 290. t. 74.
Querquedula minor, Briss. 6. 436. 32. t. 40. f. 1.
 Petite Sarcelle, Buff. Ois. 9. 265. t. 17. & 18.—Id. Pl. Enl. 947. male.
 Canard Sarcelle d'Hiver, Temm. Man. d'Orn. 2. 846.
 Crickente, Bechst. Naturg. Deut. 4. 1143.—Meyer, Tasschenb. 2. p. 547.
 Common Teal, Penn. Br. Zool. 2. No. 290. —Arct. Zool. 2. 577. —Will. (Angl.) 337.—Allin's Br. Birds, 1. t. 100.—Lath. Syn. 6. 551. 88.—Id. Sup. 276.—Id. Sup. 2. 360.—Id. in Trans. Linn. Soc. 4. 108. pl. 15. f. 1. (Trachea).—Lewin's Br. Birds, 7. pl. 260.—Mont. Orn. Dict. 2. and Sup. —Bewick's Br. Birds, 2. ed. 1826. pt.
 Green-winged Teal, Wils. Amer. Orn. 8. 106. pl. 70. f. 40. male.

THE Teal, one of the smallest of the Anatidæ, is entitled to be included in the number of our indigenous birds, as it is known to breed in the bogs and marshy grounds of the northern counties of England, as well as on the edges of the Scottish lakes. It is not, however, to be supposed that the birds so generally spread over the kingdom during the winter, and taken in such great numbers in the decoys, and by various other devices, in the southern counties, are the produce alone of those that remain with us; they are most of them natives of more northern latitudes, and who make these islands the boundary of their equatorial movement. Our indigenous broods, I am inclined to think, seldom quit the immediate neighbourhood of the place in which they were

bred, as I have repeatedly observed them to haunt the same district from the time of their hatching till they separated and paired, on the approach of the following spring.—The Teal breeds in the long rushy herbage about the edges of lakes, or in the boggy parts of the upland moors. Its nest is formed of a large mass of decayed vegetable matter, with a lining of down and feathers upon which the eggs rest; these are from eight to ten in number, in size rather exceeding those of the Ring-Dove, and of a cream-white. The young, when first excluded, are covered with a dark-coloured down, that, in less than two months, gives place to a plumage similar (in both sexes) to that of the female parent. The young males do not acquire their peculiar distinctive garb till about the middle of December. The present is a night-feeding bird; commencing the flight from its diurnal retreat immediately after sun-set. During the day it reposes upon the water, or sits motionless on its very brink, with the head couched between the shoulders, or, when actually asleep, with the bill hidden under the scapulars, the usual reposing attitude of most of the feathered race. The flight of the Teal is very rapid, and, when flushed, it darts off so quickly, as to require great alertness in the sportsman, that he may gain his shot before the bird is out of distance.—Its food is composed of the seeds of various aquatic plants, vegetables, insects, and mollusca. In confinement (which it bears well, and soon becomes very tame), when fed upon grain, it always moistens the food before attempting to swallow it;—a habit also observed in its congener the Gargany.—The bill of the Teal is formed exactly on the plan of that of the Pintail, and the two middle tail-feathers, though not elongated in the same proportion, are longer than the rest, and pointed. The American Green-winged Teal of WILSON has by some been considered a distinct species, on account of the white bar on the shoulders, seen in many of the males; the author, however, thinks it identical with the European bird, and I believe Dr RICHARDSON and Mr SWAINSON are of the same

Nest, &c.

Food.

opinion. The distribution of the present species extends over a great part of Europe and Northern Asia, as well as the American Continent; and during winter, the period of its migratory movements, it is very abundant in France, Holland, Germany, &c.—The trachea of the male is of small but equal diameter throughout its length; the lower larynx is formed of a large bony arch, on the left of which is a small globular ampulla, about the size of a pea. The flesh of this bird is very tender, and highly prized at the table.

PLATE 54. Fig. 1. The Male.

Bill black. Irides brown. Crown of the head, cheeks, sides and front of the neck, reddish-brown. Enclosing the eye, and proceeding as far as the nape of the neck, is a large patch or band of glossy duck-green, bordered by a white line. Chin black. Sides of the lower part of the neck, back, scapulars, and flanks, beautifully rayed with zigzag lines of black and white. Wing-coverts hair-brown, tinged with grey; those covering the secondaries having yellowish tips, and forming a bar across the wings. Middle of the speculum glossy duck-green; with the feathers on either side velvet-black. Front of the neck and breast cream-white, with round black spots. Belly and abdomen white. Under tail-coverts cream-yellow, divided and bordered by a band of velvet-black. Tail wedge-shaped, consisting of fourteen feathers, pale hair-brown, margined with white. Legs clove-brown.

General
description.
Male.

Towards the end of summer the male loses in a great measure his distinctive markings, acquiring a plumage not very different from that of the female; which he retains till the general moult.

Fig. 2. The Female.

Head and hinder part of the neck pale sienna-yellow, streaked with deep hair-brown. Throat and cheeks

Female.

yellowish-white, spotted with hair-brown. All the upper parts brownish-black, deeply margined with yellowish-brown and white. Under parts yellowish-white. Speculum similar to that of the male. Legs tinged with yellow.

The young of the year, of both sexes, strongly resemble the female bird; though usually rather darker in the tints of their plumage.

GARGANY TEAL.

QUERQUEDULA CIRCIA, Steph.

PLATE LIII. Male and Female.

- Querquedula Circia, Steph.* Shaw's Zool. 12. 143. pl. 51.
Anas Circia, Linn. Syst. 1. 204. 34.—*Gmel.* Syst. 1. 553.—*Raii* Syn. 148.—*Lath.* Ind. Orn. 2. 873. var. B.
Querquedula aestiva, Briss. Orn. 6. 445. 33.
La Sarcelle d'été, Buff. Ois. 9. 268.—*Id.* Pl. Enl. 946.
Canard Sarcelle d'été, Temm. Man. 2. 844.
La Sarcelle ordinaire, Cuv. Reg. Anim. 1. 539.
Summer Teal, Will. (Angl.) 378. t. 76.—*Albin's Birds*, 2. 103. 104.—*Lath.* Syn. 6. 552. 89.
Anas Querquedula, Linn. Syst. 1. 203. 32.—*Gmel.* Syst. 1. 531.—*Briss.* 6. 427. 31. t. 39. f. 1. 2.—*Raii* Syn. 148. 8.—*Will.* 271. t. 74.—*Lath.* Ind. Orn. 2. 872. sp. 99.—*Flem.* Br. Amer. 1. 125. sp. 191.
La Sarcelle commune, Buff. Ois. 9. 260.
Knackente, Bechst. Naturg. Deut. 4. 1135.
Gargany, Br. Zool. 2. No. 289. pl. 101.—*Arct. Zool.* 2. 576. O.—*Will.* Angl. 377. t. 74.—*Lath.* Syn. 6. 550. 87.—*Id.* Sup. 2. 360.—*Id.* in Trans. Linn. Soc. 4. 108. pl. 13. f. 2. 3. (Trachea).—*Lewin's Br. Birds*, pl. 259.—*Mont.* Orn. Dict. 1. and Sup.—*Bewick's Br. Birds*, ed. 1826. pt. 372.—*Shaw's Zool.* 12. 143. pl. 51.—*Flem.* Br. Anim. 1. 125. sp. 191.
 PROVINCIAL—Pied Wigeon, Cricket Teal.

THE male of the Gargany, which does but slightly exceed the Common Teal in dimensions and weight, is distinguished by a beautifully varied plumage; not, however, producing its effect by strong contrast, as the colours are mostly of a subdued tone, but dependent for its attraction upon a delicacy of pencilling and a pleasing gradation of tint, exceeded by few even of this handsome group of the Anatidæ. In

the present species the bill becomes rather broader in proportion to its length than in the Teal and Pintail, and the points of the lamellæ are just visible below the margins of the upper mandible, shewing an advance towards the Blue-winged Teal of America, in which species they protrude farther than in any of the genus, connecting it with the Gadwalls and Ducks. In the form and position of the tracheal labyrinth it also differs considerably from the Teal; for, instead of this appearing as a globular appendage on the left side of the lower larynx, as in that and other species of the present family, it is placed perpendicular to the tracheal tube, of which it looks not unlike a continuation. It is also of considerable size, and divided on its anterior face by a slight furrow into two unequal portions; and the bronchi spring from the upper part of its dorsal aspect. The diameter of the tracheal tube is, moreover, much greater throughout its whole length, being nearly equal to that of the Mallard, and widening to a great degree immediately before its junction with the ampulla.—This is by no means a common species in Britain; and though stated to be a winter visitant, I never met with it, except in the months of April and May, when it is killed in Norfolk and other eastern parts of the island, and sent to the London market. The above is the period of its migratory flight towards its summer, or breeding, quarters; and the few that visit us are probably driven out of their direct course, which lies more to the eastward. I have not been able to ascertain satisfactorily whether any of these visitants remain and breed here; nor do any of our writers expressly state that fact, though MONTAGU and FLEMING hint at its probability. In the north of England it is a bird of great rarity, not a single instance of its capture having come within my experience; and this would be a remarkable circumstance, if, as Low states in his "*Fauna Orcadensis*," it abounds in the bays and on the lakes of those islands. But as he confesses that he was never able to procure a specimen for inspection, and

Occasional
visitant.

only speaks upon the strength of observations made at a great distance, we may be allowed to doubt the accuracy of his supposition as to the species. Upon the continental parts of Europe it is very plentiful, extending its winter migration farther to the south than the Teal and other Ducks. It is also widely spread over the northern parts of the Asiatic Continent, as far as Kamtschatka; but is not enumerated amongst the American birds by WILSON, or any other transatlantic ornithologist, although TEMMINCK (in his *Manuel*) states it to belong to the northern part of that Continent.—

Food. Its habits are very similar to those of the Teal, and its food consists of insects and larvæ, seeds of water-plants, &c. which it obtains by sifting the mud with its bill,—a mode of feeding common to this and the preceding genera. When in confinement, it has been observed to moisten such food as grain, before swallowing it.—It breeds amongst the rank

Nest, &c. herbage by the sides of lakes and pools; and its eggs are reported as of a cream-white, with indistinct spots of a deeper shade; which latter circumstance may be a matter of doubt, as not being peculiar to the present family. Its usual cry is a low hoarse croak.

PLATE 53. Represents the Male and Female of the natural size.

**General
description.
Male.**

Crown of the head, occiput, and list down the back part of the neck, dark umber-brown. Chin black. Band over the eye, and which is extended down the neck, pure white. Checks and upper part of the neck chestnut-brown, finely rayed with white. Lower part of the neck and breast pale buff, beautifully varied with spots and semicircular bars of black. Back hair brown, glossed with green, and the feathers margined paler. Scapulars long and acuminate, black, with a central streak of white. Wing-coverts pale French grey. Speculum glossy leek-green. Belly white. Flanks rayed with black. Vent,

upper and under tail-coverts yellowish-white, spotted with black. Bill blackish-brown. Legs greyish-black. Throat and chin white. Hind part of neck, and upper parts of body, hair-brown, the feathers being margined with white. Wing-coverts dark ash-grey. Lower part of breast and belly white. Flanks and abdomen spotted with hair-brown. Female.

BIMACULATED TEAL.

QUERQUEDULA GLOCIENSIS, Vigors.

PLATE I.V. and I.V.*

Querquedula glociensis, Vigors in Trans. Linn. Soc. 14. 559.
Anas glociensis, Pall. Act. Stock. 1779. 40. t. 33. f. 1.—*Gmel. Syst.* 1. 526
 —*Lath. Ind. Orn.* 2. 862. sp. 75.—*Penn. Br. Anim.* 1. 126. sp. 193.
Mareca glociensis, Steph. Shaw's Zool. 12. 140.
 Bimaculated Duck, Penn. Br. Zool. 2. 602. No. 287. pl. 100.—*Lath. Syn.*
 6. 521.—*Mont. Ornith. Dict.* 1.—*Bewick's Br. Birds*, 2d ed. 1826.
 p. t. 362.

I HAVE adopted the views of my friend Mr VIGORS, in assigning to this rare and handsome species a station amongst the Teals, to which it shews a near affinity in the length and form of its bill, graduated tail, and the general distribution of colours in its plumage. In these islands, its appearance seems to be of very rare occurrence, as three specimens only have been hitherto recorded. The first of these was a male bird, taken in a decoy in 1771, described and accurately figured by PENNANT in his "British Zoology;" and the next a male and female, also taken in a decoy in 1812, and from which the figures in the present work were taken. These last came into the possession of Mr VIGORS, by whom they were subsequently presented to the Zoological Society, and now enrich their museum. This species appears to be an equal stranger on the continental parts of Europe, and is altogether omitted by TEMMINCK, in his list of European

Very rare
 visitant.

birds. Its native country is said to be the northern part of Asia, being common in Eastern Siberia, upon the Lena and other rivers, as well as in the vicinity of the Lake Baikal. Of its habits, and other elucidating points of its history, I am unable to give any account ; nor does it appear that any attention was given to the construction of the windpipe and other anatomical details, in the above mentioned specimens.

PLATE 55. Represents the Male bird of the natural size, from the specimen in the museum of the Zoological Society.

General
description.

Male.

Bill blackish-grey, passing towards the base and edges into orange-yellow. Front, crown, and occiput very deep reddish-brown, glossed with purplish-black, and passing upon the hind part of the neck into deep violet-purple. Between the bill and eyes, and behind the ear-coverts, are two large irregular patches of chestnut-brown, margined and varied with white. Sides of the neck and cheeks glossy duck-green, the rest of the upper part of the neck and throat being greenish-black. Front of the lower part of the neck, and sides of the breast, reddish-brown, with oval black spots. The middle part of the breast pale reddish-brown, also spotted with black. Ground colour of the mantle pale sienna-yellow, undulated with black lines. Scapulars the same, tipped with glossy Scotch blue. Wing-coverts hair-brown, the lower range having pale wood-brown tips. Speculum dark green, glossed with purple. Upper and under tail-coverts greenish-black, glossed with purple. Tail wedge-shaped, with the two middle feathers black, narrow, acuminate, and much longer than the rest, which are hair-brown, margined with white. Belly and abdomen yellowish-white, with undulating black lines, most distinct upon the flanks. Legs and feet pale orange.

PLATE 55.* Natural size.

Chin and throat pale buff. Head and neck the same, but with spots and streaks of black, those upon the crown of the head being larger and more distinct. Lower part of the neck, and sides of the breast, pale yellowish-brown, with blackish-brown spots. Flanks variegated with yellowish-brown and blackish-brown. Upper parts blackish-brown, the feathers being deeply margined with reddish-white and pale yellowish-brown. Lesser wing-coverts hair-brown, with the lower tier deeply tipped with pale reddish-brown. The upper half of the speculum green, with purple reflections; the lower half velvet-black, with white tips to the feathers. Quills and tail hair-brown, the latter margined with white and reddish-white. Legs orange. Female.

GENUS MARECA, *STEPH.* WIGEON.

GENERIC CHARACTERS.

BILL shorter than the head; higher than broad at the base; strait from before the nostrils; flattened and narrowing towards the tip, which is armed with a middle-sized hooked nail. Mandibles laminato-dentate, with the points of the laminae of the upper mandible slightly projecting, in the centre of the bill, beyond the margins.

Nostrils lateral, placed near the base of the bill, small, oval, pervious.

Wings acuminate. Tail wedge-shaped, consisting of fourteen feathers, acute.

Feet of four toes, three before, all united by a membrane; hind toe small, having a narrow web, and resting with its tip on the ground.

The Wigeons are distinguished from the Teals by a much shorter and less cylindrical bill, and from the Ducks; by that member becoming more contracted and narrow, instead of widening towards its tip. The laminae of the bill are also broader and set wider apart, approaching in form nearer to those of the subfamily *Anserina*. These birds also vary in their habits, for instead of searching and sifting the mud with their bills for insects, seeds, &c., upon which food the preceding genera chiefly subsist, they live principally on grasses and vegetable diet, which they pluck in the same manner as Geese. Their flight is strong and swift, and they have a peculiar shrill whistling call-note. In the shape of the tracheal labyrinth they resemble more the Pintail than any of the other species; and the middle feathers of the tail are also acute, and considerably longer than the rest.

COMMON WIGEON.

MARECA PENELOPE, Mihi.

PLATE ILL.

Mareca fistularis, *Shaw's Zool.* 12. 131. pl. 50.

Anas Penelope, *Linn. Syst.* 1. 202. 27.—*Gmel. Syst.* 1. 527.—*Raii Syn.* 146.

A. 3.—*Will.* 288. t. 72.—*Lath. Ind. Orn.* 2. 860. sp. 71.—*Flem. Br. Anim.* 1. 124. sp. 190.

Anas fistularis, *Briss. Orn.* 6. 391. 21. t. 35. f. 2.

Le Canard Siffleur, *Buff. Ois.* 9. 169 t. 10. et 11.—*Temm. Man. d'Ornith.* 2. 840.

Le Siffleur, *Cuv. Reg. Anim.* 1. 538.

Pfeifente, *Bechst. Naturg. Deut.* 4. 1109.—*Meyer, Tasschenb.* 2. 541.

Wigeon, Whewer, or Whim, *Penn. Br. Zool.* 2. 601. No. 286.—*Arct. Zool.*

2. 574. K.—*Will. (Angl.)* 375. t. 72.—*Albin's Birds*, 2. pl. 99.—*Lath. Syn.*

6. 518. 63.—*Id. Sup.* 2. 354.—*Id. in Trans. Linn. Soc.* 4. pl. 13. f. 9.

(Trachea).—*Mont. Ornith. Dict.* 2.—*Id. Sup.*—*Lewin's Br. Birds*, 7.

pl. 251.—*Bewick's Birds*, ed. 1826, 2. p. t. 350.—*Rennie's Mont. Ornith.*

Dict. 542.

Common Wigeon, *Shaw's Zool.* 12. 131. pl. 50.

PROVINCIAL.—Pandle-whew, Yellow Poll, Whew-Duck.

As a winter visitant to the British Isles, the Wigeon is more numerous, and, I may add, more generally distributed.

Periodical
visitant.

ed than any other species; for its habitats embrace not only the fresh-water lakes of the interior, but the whole circuit of our coasts, wherever they are suitable to its economy. Such are bays and other shores covered with a slimy deposit, the mouths of rivers; &c., all of which produce abundantly the particular sorts of vegetable food upon which this species subsists. Vast numbers of Wigeons are annually taken in the decoys, the amount, in some of the southern counties (according to MONTAGU), surpassing that of all the other wild fowl taken collectively. In districts where the decoy has not been introduced, they are obtained by the Punt and its swivel-mounted duck-gun, or shot during the moonlight nights by fowlers, who station themselves in places where the birds are accustomed to feed, which they do after night-fall, like most of the species in this subfamily. During the early part of the winter their flesh is delicate and well-flavoured, but after Christmas (I speak of those taken on the coast) it becomes rather rank, which may be attributed to a failure of the early vegetable food, and an increased consumption of the stronger algæ, and perhaps of small molluscous animals. In Northumberland, where they abound upon several parts of the coast, they are sold for eighteen-pence the couple, being half the price of the Mallard and Brent Goose. They usually make their first appearance in this county about the 20th day of September, in small companies, which are on the gradual increase till about the beginning of November, when the migration appears to be completed. Early in March they again commence their polar movement, or return to summer quarters, and by the month of April the coast is entirely deserted. The northern countries of Europe, even to very high latitudes, as well as those of Northern Asia, are the native regions of these birds; and though TEMMINCK mentions them as sometimes breeding in Holland, a parallel as low as our own, I am not aware that they have ever been ascertained to do so in Britain. At night, their time of activity, they fly in compact bodies, and are easily distinguish-

Food.

ed, when passing, by their peculiar whistling call-note, and from the sound of which has arisen their trivial name of *Whew-Duck*. They are easily domesticated, and thrive well when supplied with plenty of water; but do not breed in confinement, at least the female, though she may occasionally lay eggs, will not provide a nest, or go through the process of incubation. It is, however, a singular fact, that a hybrid progeny has been produced between the male Wigeon and the female Pintail, although females of his own species were kept on the same piece of water. The mules from this cross, as might be expected, were barren *. It has also been known to pair with the Common Duck, in which case the eggs were also prolific. The form of the tracheal labyrinth of the Wigeon comes nearer to that of the Pintail than any other, being nearly globular; its attachment, however, to the bony arch of the larynx is different, the bottom of that capsule being nearly on the same line with the arch, whereas in the Pintail it extends considerably below it. It is also of smaller size.—The eggs of the Wigeon are stated to be eight or ten in number, and their colour a pale greenish-white.

PLATE 52. Represents the male and female of the natural size.

General
descrip-
tion.
Male.

Fig. 1. the Male.—Bill bluish-grey, with the tip and nail black. Forehead and crown pale buff-orange. The rest of the head, and the upper part of the neck, orange-brown, with small specks upon the cheeks. Chin and throat black. Lower part of the neck and breast pale brownish-purple red, tinged with ash-grey. Lower part of the back of neck beautifully barred with black and pale reddish-white. Back, scapulars, sides, and flanks finely rayed with zigzag lines of black and white.

* See MONTAGU'S Supplement to his Ornithological Dictionary, where this and other curious facts respecting the Wigeon are narrated at considerable length.

Tertials having their inner webs deep grey, the outer ones velvet-black, margined with pure white. Smaller wing-coverts, next to the shoulders, grey, finely powdered with white, the others pure white. The greater coverts with velvet-black tips. Speculum glossy duck-green in the centre, with the lower part and tips of the feathers black. Quills pale hair-brown. Belly and abdomen white. Under and side tail-coverts black, glossed with green. Tail brown, tinged with grey; the feathers sharp-pointed, and the two middle ones longer than the rest. Legs and toes bluish-grey.

In summer, the head and neck become spotted all over with black. The breast also, and sides of the body, acquire a reddish-brown colour, with darker bars and lines upon the latter. Back and scapulars mottled and varied with reddish-brown and dusky feathers in large bars, and others with fine black and white zigzag lines. Under tail-coverts white, with reddish-brown bars.

Fig. 2. the Female.—Head and neck yellowish-brown, Female. thickly covered with blackish-brown spots and specks. Upper parts of the body greyish-black, the feathers being margined with greyish-white and yellowish-brown. Breast, belly, and abdomen white. Flanks yellowish-brown. Under tail-coverts white, spotted with blackish-brown. Legs and bill deep bluish-grey.

The young of both sexes resemble the adult female, but the tints are darker and not so distinct.

SUBFAMILY FULIGUINA.

HIND toe with a lobated membrane. Legs placed far backwards. Neck thick and short. Dive in search of food.

GENUS OIDEMIA, *FLEM.* SCOTER.

GENERIC CHARACTERS.

BILL swollen or tuberculated at the base, large, elevated, and strong; the tip much depressed and flattened, terminated by a large flat dertrum or nail, which has its extremity rounded and slightly deflected. Mandibles laminated, with the plates broad, strong, and widely set.

Nostrils lateral, elevated, oval, placed near the middle of the bill.

Wings of mean length, concave, acute.—Tail short, graduated, acute.

Legs far behind the centre of gravity; tarsi short; feet large, of four toes, three before and one behind. Outer toe as long as the middle one, and much longer than the tarsus; hind toe with a large lobated membrane.

The members of this genus are distinguished by a prevailing darkness of plumage; the males being clothed in a garb of glossy black, the females in one of a brown or sooty complexion. In some species it is uniform and without relief, but in others, which approach nearer to the succeeding genus *Somateria* (Eider), it is relieved by small patches of white. They are strictly marine birds, inhabiting the ocean or inland saline seas; and from adventitious circumstances only are they ever seen upon fresh water lakes, or on rivers beyond the influence of the tide. They swim well, and obtain their food (such as crustaceous and molluscous animals) by div-

ing, for which their formation is well adapted; and they are able to remain for a long time submerged. They rarely quit the water, except for incubation; and their flight, though usually near the surface, is yet strong and rapid. Upon reviewing the species hitherto assigned to this genus, I am inclined to think that *Oidemia nigra*, *Oid. leucocephala*, and another (said to be new) from North America, will have to be separated from *Oid. fusca*, *Oid. perspicillata*, not only on account of the difference of form shewn in the basal part of the bill, but also from the relative proportions of the wings. In *Oid. nigra*, the first quill is *shorter* than the second, and its anterior part very narrow in consequence of a deep notch or emargination at about half its length. In *Oid. fusca* and *perspicillata*, on the contrary, the first quill is the *longest*, and without any emargination whatever. The gradation from the Velvet Scoter (*Oid. fusca*), through *Oid. perspicillata*, to the Eiders is gradual, and presents a beautiful instance of the affinities that connect the various genera with each other.

BLACK SCOTER.

OIDEMIA NIGRA, *Flem.*

PLATE LXVIII.

Oidemia nigra, *Flem.* Br. Anim. 1. 119. sp. 174.—*Shaw's Zool.* 12. 213. pl. 59.

Anas nigra, *Linn. Syst.* 1. 196. 7.—*Gmel. Syst.* 1. 508.—*Lath. Ind. Orn.* 2. 848. sp. 43.—*Briss.* 6. 420. 28. t. 38. f. 2.—*Wils. Amer. Orn.* 3. 135. pl. 92. f. 2.

Anas nigra minor, *Raii Syn.* 141. A. 5.—*Will.* 280. t. 94.

La Macreuse, *Buff. Ois.* 9. 234. t. 16.—*Id. Pl. Enl.* 978.

Canard Macreuse, *Temm. Man. d'Orn.* 2. 856.

Die Trauer Ente, *Bechst. Naturg. Deut.* 4. 963.

Scoter or Black Diver, *Penn. Br. Zool.* 2. 584. No. 273.—*Arct. Zool.* 2.

484.—*Lath. Syn.* 6. 480.—*Lewin's Br. Birds*, 7. pl. 249.—*Mont. Orn.*

Dict. and Sup.—*Bewick's Br. Birds*, 2. ed. 1826, p. t. 322.—*Wils.*

Amer. Orn. 3. 135. pl. 92. f. 2.

Black Scoter, *Flem. Br. Anim.* 1. 119. sp. 174.—*Shaw's Zool.* 12. 213. pl. 59.

Anas cinerascens, *Bechst. Naturg. Deut.* 4. 1025.

Canard Grisette, *Temm. Man. d'Ornith.* 1. ed. p. 555.

} Young.

Periodical visitant. DURING the winter, and till the season of spring is tolerably well advanced, the Scoter is to be found upon our shores, frequenting more particularly those which are of rocky character, and which of course abound most in crustacea, bivalve, mollusca, and other small marine animals, upon which it entirely subsists. To obtain these it is in the constant habit of diving, and is able to remain submerged for a considerable time; but as this can only be efficacious in water of a certain depth, it approaches at every flow of the tide rather near to the shore, at least where the depth does not exceed a few fathoms, swimming with ease amidst the heaviest surf, and pursuing its diving investigations with unwearied diligence. In France, where an accommodating creed has allowed the Scoter, and its congener the Velvet Scoter, to rank as *fish*, and of course to be eaten on fast days, advantage has been taken of their habits by the fishermen on those coasts, who, at the ebb, spread their nets horizontally about two or three feet above the beds of shell-fish, which these birds are observed most to haunt. Upon the return of the tide the Scoters approach in great numbers, and, diving for their food, become entangled in the meshes of the floating nets; and in this way it is said that twenty or thirty dozens have been taken in a single tide. In this country they are universally rejected as food for the very qualities that render them acceptable to our neighbours, viz. the oiliness and fishy flavour of the flesh, and consequently no attempts are made to take them, though there is little doubt but that they might be caught with equal ease, and in as great numbers on some parts of our coast. The flight of the Scoter is straight and tolerably rapid, but near the surface of the water, and seldom to any great distance at a time. Its wings are rather short and concave (like the typical *Natatores*), and the first quill is strongly notched at about half its length, the remaining part to the tip being very narrow. This circumstance, as well as the proportionate shortness of that to the other quills, as compared with *Oid. fusca* and *Oid. perspicillata*,

unnoticed by naturalists, furnish characteristics of sufficient apparent value (as I have before stated), to warrant its separation from them. The trachea also does not possess the distinct and well defined enlargements, or bony swellings, so conspicuous in the other two species, but gradually increases from the larynx to the middle, where it attains its greatest diameter, from whence it again decreases to the lower larynx or bone of divarication, which is slightly swollen, and to which the bronchi, formed of cartilaginous rings, and of a greater diameter than any part of the tracheal tube, are attached. Upon land this bird walks with difficulty, and in a semi-erect position, from the posterior situation of the legs. It abounds throughout the northern parts of Europe, Asia, and America, and is found during the summer in very high latitudes. It breeds near to the coast, or on the banks of rivers, within the course of the tides, or upon the edges of such inland seas as it may frequent. The nest is formed of Nest, &c. grass and other vegetable matter, mixed and lined with a quantity of its own down; and the eggs, from six to ten in number, are white. The gizzard of this species is of great size and muscular power, well adapted for triturating the shelly and tough food upon which, as I have before noticed, it subsists. Dr FLEMING, in his History of British Animals, has inserted the White-headed Duck (*Oidemia leucocephala*), as a rare British species, but his description, both as to size and plumage, does not accord with those of LATHAM and TEMMINCK. I am therefore inclined to think that he has mistaken the young or female of the Black Scoter for the above species; or that he has described one hitherto unnoticed, but nearly allied to our present bird. The latter, I suspect, to be the case, as I possess a specimen said to have been killed upon the Scottish coast, which I cannot reconcile with *Oid. nigra*. The plumage of this bird (which I take to be a female or young male) is blackish-brown above; the lower parts pale broccoli-brown, with lighter undulations; the crown of the head, occiput, and nape of the neck, deep black-

ish-brown ; the *cheeks, throat, and sides of the upper part of neck*, greyish-white, tinged with pale hair-brown. Its bill is longer and narrower than that of the Scoter, with the nail smaller and *suddenly contracting towards its extremity*. The first quill-feather is rather shorter than the second, and though tapering and small toward the tip, has not the decided notch observable in that of our present species. The tail consists of sixteen feathers *.

PLATE 68. Represents the adult Male of the natural size.

General
descrip-
tion.

Male.

Bill black, with the exception of a band between the basal tubercle, the nostrils, and a rounded space in front of them, which parts are orange. Circle round the eye yellow. Irides brown. Whole of the plumage deep ink-black, the head and neck being glossed with Prussian blue. Legs and toes reddish-black.

Female.

The Female is without the marked tubercle at the base of the bill, that part being merely elevated. Head and upper parts of the body blackish-brown, margined paler. Chin and throat greyish-white. Under parts very pale broccoli-brown, with a silky lustre.

The young males are very similar to the females, but the white upon the throat is less tinged with brown and grey. As they advance in age the tubercle begins to swell, and the orange on the bill becomes apparent.

* Since writing the above, I have received the second part of that beautiful and scientific work, the "Fauna Borealis Americana," and from the description there given of *Oidemia Americana*, I suspect that my bird belongs to that species. If so, and I can prove it to be a British killed specimen, it will certainly be entitled to a place in the list of our Fauna.

VELVET SCOTER.

OIDEZIA FUSCA, Flem.

PLATE LXVII.

- Oidezia fusca*, *Flem.* Br. Anim. 1. 119. sp. 173.—*Shaw's Zool.* 12. 116.
Anas fusca, *Linn.* Syst. 1. 196. 6.—*Gmel. Syst.* 1. 507.—*Lath.* Ind. Orn. 2. 848. sp. 44.—*Wils.* Amer. Orn. 8. 151. pl. 72. f. 3. male.
Anas nigra major, *Raii* Syn. 141. A. 4.—*Will.* p. 278. pl. 70.—*Briss.* Orn. 6. 423. 29.
Grande ou double Macreuse, *Temm.* Man. d'Ornith. 2. 854.
Samme-ente, *Bechst.* Naturg. Deut. 4. 954.—*Mejer*, Tasschenb. Deut. 2. 516.
Great Black Duck, *Will.* (Angl.) 363. 670.
Velvet Duck, *Penn.* Br. Zool. 2. 583. No. 272. pl. 96.—*Arct. Zool.* 2. 482.—*Lath.* Syn. 6. 482. 37.—*Id.* Sup. 2. 350.—*Id.* in Trans. Linn. Soc. 4. 119. pl. 15. f. 3. (Trachea).—*Levin's* Br. Birds, 7. 247.—*Pult. Cat.* Dorset. p. 20.—*Moul.* Orn. Dict.—*Id.* Sup.—*Bewick's* Br. Birds, ed. 1826. 2. p. t. 320.—*Wils.* Amer. Orn. 8. 151. pl. 72. f. 3.
Velvet Scoter, *Flem.* Br. Anim. 1. 119.—*Id.* 173.—*Shaw's Zool.* 12. 216.

PROVINCIAL.—Black Diver, Double Scoter, Black Duck.

THIS species is much larger than the preceding, and may always be distinguished from it by the form of the bill, as well as by the white band upon the wings, and a spot of the same colour at the posterior angle of the eye. It is a regular winter visitant upon our coasts, and frequents the same localities as the Black Scoter, with which it frequently associates, and to which it bears a close resemblance in its general habits. Its bill approaches in form nearer to that of *Oid. perspicillata*, the tubercle at the base not rising immediately in front as in *Oid. nigra*, but being double, and rising on the sides, where they, however, differ even from those of the former bird, in being partly covered by small feathers, and not left entirely exposed. TEMMINCK's distinctive character of this species is therefore inapplicable, when he says, "*Bec sans renflemens lateraux.*" The wings, also, of this and *Oid. perspicillata* differ in their proportions from those of *Oid. nigra*, the first quill being longer than the second, and the longest in the wing. This feather also tapers gradually

Periodical visitant.

towards its point, without any notch or sudden decrease ; and the tail, instead of *sixteen*, consists of *fourteen* feathers. The trachea is distinguished by two bony enlargements, the first of which is situated immediately below the larynx, of an oval shape, and in old specimens is nearly an inch in length. The second is about two-thirds down the trachea, where it suddenly swells out into a large rounded capsule, flat on one side, and convex on the other ; the bone of divarication, where the rings become lost, being, in old birds, slightly swollen on each side, where the bronchi, which are of small diameter, are attached to it. The Velvet Scoter is found in all the northern parts of Europe, and its winter migration to warmer latitudes is regulated by the severity or mildness of the season. It is also very abundant in all the Arctic regions of Asia, where, in Kamtschatka, Siberia, &c. it is reported to breed upon the banks of the larger rivers,

- Nest, &c. within the effects of the tide. The nest is formed of grass, and lined with down, and the eggs, from eight to ten in number, are white. It is met with also in North America. Its flesh is as unpalatable as that of the Black Scoter, on which account it is seldom pursued by the fowler, but is occasionally caught in the stake-nets set for salmon, &c.—In those
- Food. which I have dissected, the gizzard, which is large and strong, was filled with the remains of mytilus, mactra, solen, and other shelly mollusca, intermixed with the spawn of fish or crustaceous animals.

PLATE 67. Represents the Male and Female of the natural size.

General
descrip-
tion.

Male.

The plumage of the male bird is of an intense velvet-black, with the exception of the spot at the posterior angle of the eye, and the secondary quills, which are white. Upper part of the base of the upper mandible, nostrils, and margins of both mandibles, black ; the rest of the bill, including the lateral tubercles, bright orpiment-orange, with the tip of the nail darker. Inner

part of the tarsus carmine-red, the outer part, and toes, orange-red, with the membranes of the toes black.

The whole of the upper parts of the body of an uniform Female.
pitch (or brownish) black, the under parts much lighter. Between the bill, the eyes, and the auriculars, is a patch of greyish-white. Bill blackish-brown. Legs and toes dull brick-red.

The young males are like the females till after the second moult.

SURF SCOTER.

OIDEMIA PERSPICILLATA, *Flem.*

PLATE IXX.

Oidemia perspicillata, *Flem.* Br. Anim. 1. 119.—*Steph.* Shaw's Zool. 12. 219.

Anas perspicillata, *Linn.* Syst. 1. 201. 25.—*Gmel.* Syst. 1. 524.—*Lath.* Ind. Orn. 2. 847. sp. 42.—*Wils.* Amer. Ornith. 8. 49. pl. 67, f. 1. male.

Anas nigra major, *freti Hudsonis*. 6. 425. 30.

Macreuse à large bec, ou Marchand, *Buff.* Ois. 9. 244.—*Id.* Pl. Enl. 995.

Canard Marchand, *Temm.* Man. d'Ornith. 2. 853.

Black Duck, *Edward's* Glean. pl. 15. 5.—*Penn.* Arct. Zool. 2. 483.—*Lath.* Syn. 6. 479.

Surf Duck, *Wils.* Amer. Orn. 8. 49. pl. 67. f. 1. male.

Great-beaked Scoter, *Shaw's* Zool. 12. 219.

I HAVE admitted this bird into the list of stragglers, or Rare
rare visitants, as it has been occasionally met with about the visitant.
shores of the Orkney and Shetland Isles. In the high latitudes of the North American Continent, such as Hudson's and Baffin's Bays, it is very abundant, and during winter, or its equatorial migration, is spread along those coasts, as far to the southward as Florida. In this species the bill has not that flatness and expansion in front of the nostrils that are so conspicuous in *Oid. nigra* and *Oid. fusca*, but assumes, in a great degree, the characters of the succeeding genus *Somateria* (Eider), by the tip being suddenly contracted, and the nail (which is also more convex than in the other

species), being brought to a narrow rounded point; the entering angle of the forehead also projects, as in the common Eider, as far as the nostrils. The lateral parts of the bill at the base are very tumid, and are particular from the marking there displayed, these swellings being entirely exposed, and not in part concealed by the feathers, as in the Velvet Scoter. In the proportions of the wings, and the number of the tail-feathers, it agrees with that bird. The anatomy of the trachea also, according to the description of it by WILSON, in its general character, resembles that of *Oid. fusca*, for he says, "there was a singular hard expansion at the commencement of the windpipe, and another much larger, about three quarters of an inch above where it separates into the two lobes of the lungs; this last was larger than a Spanish hazle-nut, *flat* on one side, and *convex* on the other.—Like its congeners, this bird feeds upon the various bivalve shell-fish and crustacea, for which it is constantly diving. It is always seen upon the water, and very frequently amidst the heaviest surf, in which it appears to delight, and to sport quite at ease; and on which account it has obtained in America the trivial name of the *Surf Duck*. Their skins, WILSON observes, are very strong, and their flesh coarse, tasting of fish; and they are, he adds, shy birds, and not easily approached.

General
descrip-
tion.

Male.

PLATE 69. represents the Male bird of the natural size.

Bill from the angle of the forehead to the tip, only one inch and a half long; and from the posterior part of the lateral tubercles, two inches and three quarters in length. The front part of the bill orpiment-orange; the lateral swollen part having a large patch of black, in front of which is another of a pearl-grey colour. The lamellæ of the bill coarse and widely set. Irides cream-white. The whole of the plumage glossy ink-black, with the exception of an angular patch of white-

upon the forehead, and another on the back part of the neck. Legs and toes reddish-orange.

The Female is of a sooty-brown, lightest about the neck and belly. The prominences on the bill are small, and of a dusky colour. Female

GENUS SOMATERIA, LEACH. EIDER.

GENERIC CHARACTERS.

BILL swollen and elevated at the base, extending high up the forehead, forked or divided by an acute angle of feathers. Before the nostrils strait, semi-cylindrical, and narrow; terminated by a strong vaulted nail, hooked, and rounded at the extremity. Both mandibles laminato-dentate, with the plates strong and widely set. Nostrils lateral, oval, small, placed towards the middle of the bill.

Wings of mean length, acute, with the first quill-feather the longest. Tail of fourteen feathers.

Legs short; feet of four toes, three before and one behind; the front toes webbed, and the outer nearly as long as the middle one; hind toe with a long lobated membrane.

The Eiders are distinguished from the preceding genus by the variegated or piebald plumage of the male birds, and by the form of the bill, which is more cylindrical and narrowed towards the tip, and armed with a strong hooked nail. The elevated part at its base (in one species rising into very large lobes) is divided by a narrow stripe of feathers, forming, as it were, a projecting angle of the forehead. The lateral parts of the upper mandible are also without that decided tumescence that is seen in the nearly allied species of Scoters. These birds inhabit the northern regions of the globe, and are found to extend to the highest latitudes yet

explored. They are strictly confined to the ocean, feeding upon Crustacea, molluscous shell-fish, &c., which they obtain by diving. Their flight is strong and rapid, but seldom at any great elevation.

COMMON EIDER.

SOMATERIA MOLLISSIMA, Leach.

PLATE LXX. AND LXX*.

- Somateria mollissima*, *Flem. Br. Anim.* 1. 119. sp. 176.—*Shaw's Zool.* 12. 224. pl. 60.
Anas mollissima, *Linn.* 1. 178. 15.—*Gmel. Syst.* 1. 514.—*Lath. Ind. Orn.* 2. 845. sp. 35.—*Wils. Amer. Ornith.* 8. 122. pl. 91. f. 2. and 3.
Anas St Cuthberti, *Raii Syn.* 141. A. 3.—*Will.* 278. t. 77.
Anser lanuginosus, *Briss. Orn.* 6. 294. 13. t. 29. 30.
Oie à Duvet, ou Eider, *Buff. Ois.* 9. 103. t. 6.—*Id.* Pl. Enl. 289. and 209. male et femelle.
Canard Eider, *Tenn. Man. d'Ornith.* 2. 848.
Die Eidergans, *Bechst. Naturg. Deut.* 4. 926.
Eiterente, *Meyer, Tasschenb. Deut.* 2. 507.
Great Black and White Duck, *Edward's Glean.* t. 98. m. and f.
Eider or Cuthbert Duck, *Penn. Br. Zool.* 2. 581. No. 271.—*Arct. Zool.* 2. No. 480.—*Will. (Angl.)* 362. 76.—*Lath. Syn.* 6. Heft. 29.—*Id.* Sup. 274.—*Levin's Br. Birds*, 7. pl. 244.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826. 2. p. t. 305.—*Wils. Amer. Ornith.* 8. 122. pl. 91. f. 2. male, f. 3. female.—*Shaw's Zool.* 12. 224. pl. 60. male.—*Flem. Br. Anim.* 1. 119. sp. 176.

PROVINCIAL.—Eider, Cuthbert Duck, Culbert Duck, Dunter Goose.

IN Britain the range of this valuable species extends to about the 55th degree of north latitude, to the southward of which it becomes of very rare occurrence. Its limits, however, towards the pole are scarcely ascertained, as it has been found, I believe, in the highest latitudes yet penetrated by navigators. In Iceland, Spitzbergen, and other arctic regions of Europe, it is very abundant; and in those cold countries is highly beneficial to the inhabitants, on account of its feathers, elastic down, eggs, &c. It is equally common in parallel latitudes of the North American continent, and, in fact, may be considered a general inhabitant of the Frigid

Zone. Upon the Northumbrian coast many Eiders breed upon the group of *Fern Islands**, situated towards the northern extremity of that county, and from two to eight miles distant from the shore, and which, with *Coquet Island* (about ten miles farther along the coast), may be reckoned the most southern breeding-stations of these birds. About April they are seen assembling in small groups along the shores of the mainland, from whence they cross over to the Islands in May, soon after which the females begin to prepare their nests, and they usually commence laying about the twentieth of that month. The males, as soon as this takes place, and incubation commences, leave the females, and again spread themselves along the shore, in companies of four or five together, and do not (as far as my observation goes) "continue on watch near the shore, as long as the females remain sitting," and then desert both her and the newly hatched brood, as mentioned in SHAW'S Zoology. The usual number of eggs is five, of a pale asparagus-green colour, of an oblong shape, and not much less than those of a Goose. The nest is com-^{Nest, &c.}posed of dried grasses, mixed with a quantity of the smaller algæ, and as incubation proceeds (and which lasts for a month) a lining of down, plucked by the bird from her own body, is added. This addition is made daily, and at last becomes so considerable in mass, as to envelope and entirely conceal the eggs, contributing, perhaps by its effect, as a non-conductor of heat, to the perfect development of the fœtus, and serving also as a protection from Gulls and other enemies. The young, as soon as hatched, are conducted to the water, which in some instances must be effected by the parent conveying them in her bill, as I have often seen the nest in such situations as to preclude the possibility of their ar-

* In consequence of having been wantonly molested in this locality during the breeding season, the Eiders have of late years very much decreased; and the same cause has been equally fatal to the Cormorants, Guillemots, Gulls, Terns, &c., which were but a short time since astonishingly numerous on these rocky islands.

living at it in any other way ; and indeed, the keeper of one of the lighthouses (upon the impending rock close to which an Eider Duck, for many seasons, had her nest, and hatched her young) assured me, that he had seen the bird engaged in this interesting duty. The down of the Eider is remarkably light and elastic, not more so perhaps than that of its congener the *King Eider*, the Scoter, and some others of the oceanic Anatidæ ; but as it is procured in greater quantity from this species, the whole imported from Iceland and other northern countries (though mixed with that of several others) is still sold under the denomination of *Eider down*. From the nest of two or three of these birds, I have frequently procured as much down as would fill a middling-sized pillow, though the same, when compressed, was not above two handfuls, and did not weigh above an ounce. As plucked from the living bird, it is much more elastic than when taken from the body after death,—a fact confirmative of what I have formerly advanced, viz. that the plumage is not mere inert matter, as believed by MONTAGU and others, but is endowed with a kind of living principle, and influenced by the state and condition of the bird. In Iceland, Greenland, &c. where the Eider down forms a great branch of their commerce, and where the birds breed in great numbers near to each other, the natives wait anxiously for the event. The first production of eggs, together with the down, is taken from them, but the next they are allowed to incubate, and rear the young, though a part of the down is from time to time removed, the female continuing to supply it as long as any remains upon the lower part of her body.—The food of the Eider consists of various species of shell-fish, crustaceous animals, and the roes of these and fishes. Such as I have dissected were generally filled with the triturated remains of mytili, tellinæ, &c. ; and twice I found the subjects gorged with the spawn of fish. They dive for their food like the Scoters, remaining for a long time submerged, and often in water of six or eight fathoms deep. They also fly with great

strength, and at the rate (as calculated) of more than ninety miles in the hour. When approached in a boat they generally take wing whilst beyond gun-shot, and when suddenly surprized they dive; but if actively pursued, and compelled to dive repeatedly, they may be so far tired out as at last to be incapable of submerging with sufficient quickness to prevent a fatal aim being taken. In this manner I have often succeeded in procuring specimens; and the same mode, it appears, is in use amongst the Greenlanders, who strike them with their darts as they rise fatigued to the surface after long-continued pursuit. The trachea of the male bird is of equal diameter throughout its length, and composed of hard and perfect rings, lined with a membrane. The lower larynx, or bone of divarication, is enlarged in front, and furnished on the left side with an elevated, flatly globose, bony protuberance, or labyrinth, about the size of a large nut. The bronchi are large, swelling much toward their middle, and composed of imperfect rings, united by a membrane. That on the left side, which proceeds from the tympanum, is of much larger diameter than the other, and both suddenly decrease when they enter the substance of the lungs. Several attempts have been made to domesticate the Eider, but hitherto without much success; that it may be done with care and attention, I have no doubt, as I have twice succeeded in rearing these birds from the egg, and preserving them alive till upwards of twelve months; but as I had no appropriate place for them at the time, they fell victims to accident, being trodden upon by horses or cattle. Indeed, their sluggish nature, or rather their inactivity upon land, renders their escape from any sudden danger a matter of great difficulty. I know also other instances in which they have been reared from the egg to maturity. The Eider Drake is long in reaching the adult state, that plumage not being perfected before the fourth year. This would seem, analogically reasoning, to indicate a great longevity, as we find the Eagle and some other birds that do not attain per-

fection till after two or three years, endowed with singular length of life. The flesh of this species in the natural state, from the kind of food they subsist on, is very unpalatable; but would probably, under a different diet, lose its rank and fishy flavour.

PLATE 70. Represents the Adult Male of the natural size.

General
descrip-
tion.

Male.

Base of the bill and frontal plates honey-yellow, passing towards the nostrils and tip into oil-green; nail of the bill large, strong, vaulted, and of a yellowish-white. Frontlets, and upper part of the head, enclosing the eyes, Scotch-blue, divided from the crown backwards by a white band. On the nape and sides of the upper part of the neck is a large patch of pistachio-green, the feathers being fine, truncated, and silky, capable of being raised to form a ruff. Cheeks, throat, and lower part of the neck, white. Breast cream-yellow, with a vivacious or purple tinge. Back, scapulars, and tertials white, tinged with straw-yellow, the latter acuminate and curled over the wings. Wing-coverts white. Rump, belly, abdomen, and vent black. Tail greyish-black. Legs honey-yellow, tinged with green.

PLATE 70 *. Represents the Female of the natural size, from a beautiful specimen killed in February, after the completion of the autumnal moult, and at which time the colours are deeper and brighter than at a more advanced period of the year.

Female.

Head and neck yellowish-brown (deepest upon the crown), and streaked with dusky. Plumage of the upper parts of the body a mixture of black, rich brown, and grey. Under parts brown, with darker undulations. Bill and legs deep greenish-grey.

Young.

The young males resemble the female till upwards of a year old, after which period they acquire a little white upon the head and cheeks, and the lower part of the

neck and breast assume the same colour ; the rest of the body remaining dark. The moult of the third year gives them a very piebald appearance by the acquisition of white upon the back and scapulars, and that of the fourth clothes them in the perfect garb of the adult.

KING EIDER.

SOMATERIA SPECTABILIS, *Leach*.

PLATE LXXI.

- Somateria spectabilis*, *Steph.* Shaw's Zool. 12. 229.—*Flem. Br. Anim.* 1. 120. sp. 177.
Anas spectabilis, *Linn.* Syst. 1. 195. 5.—*Gmel.* Syst. 1. 907.—*Lath. Ind. Ornith.* 2. 845. sp. 36.—*Sabine* in Trans. Linn. Soc. 12. 558. sp. 26.
Anas Freti Hudsonis, *Briss.* Orn. 6. 365. 15.
 Le Canard à tête grise, *Buff. Ois.* 9. 253.—*Temm.* Man. d'Ornith. 2. 851.
 Grey-headed Duck, *Edw. Glean.* pl. 154.
 King Duck, *Penn. Arct. Zool.* 2. No. 481.—*Lath. Syn.* 6. 473. 30.—*Lawin's Br. Birds*, 7. pl. 245.—*Mont. Ornith. Dict. and App. to Sup.*—*Bewick's Br. Birds*, ed. 1826, 2. p. t. 310.
 King Eider, *Flem. Br. Anim.* 1. 1200. sp. 177.—*Shaw's Zool.* 12. 229.

THE limit assigned to this species in Britain is considerably to the north of that of the Common Eider, as it has not been met with to the southward of the Orkneys, and the other northerly Scottish Isles. In one of the former (Papa Westra), Mr BULLOCK, proprietor of the late London Museum, found it breeding in the month of June ; but as he appears only to have met with a single nest during his tour, and the bird is mentioned by PENNANT as only *sometimes* visiting the Orkneys, it can scarcely be considered as entitled to the phrase used by Mr STEPHENS, in the Continuation of SHAW's General Zoology, viz. " a bird *common* in the Orcades and *other parts of Scotland*." In Greenland, Spitzbergen, and other countries of the Frigid Zone, up to very high latitudes, it is found in great abundance, in numbers equal to the Common Eider ; and with which it frequently associates, as we learn from Captain SABINE, in his

Food. Memoir of the Birds of Greenland. Its habits are also akin to those of the other, and its food is of the same nature.

Nest, &c. The down of the King Eider is of equal fineness and elasticity, and is collected by the natives indiscriminately with that of the preceding kind.—The nest is formed of algæ, grass, moss, &c. according to what the locality may supply, and the eggs are in number from four to six, very similar in size and colour to those of its congener; and which, like them, are covered with the down plucked from the parent bird as incubation proceeds. From the figure given by Captain SABINE, of the lower part of the trachea of this species, it appears of similar formation to that of the Common Eider; the tympanum being nearly of the same size, and of the same flattened globular shape. The bronchi are also much like, that proceeding from the enlargement being of a greater diameter towards its centre, and both suddenly contracting where they join the lungs. The King Eider is supposed, and I believe correctly, to be the same length of time in attaining maturity as the other species. By the Greenlanders the flesh is much esteemed, and the gibbous part (or elevated plates) of the bill is considered a great delicacy. The skins of these birds, sewed together, are formed into various comfortable articles of clothing.

PLATE 71. represents the Male and Female, rather below the natural size.

General description.

Male.

Bill vermilion-red, with the nail flesh-red. The frontal plates of the bill, which are very large and perpendicular, deep orange. Legs and toes ochreous-yellow, with the webs darker. Frontlet line that surrounds the throat, are deep velvet-black. Crown of the head, and nape of the neck, fine bluish-grey. Checks pistachio-green. The superciliary line and breast pale ochreous-yellow. Mantle, lesser wing-coverts, and sides of the rump, white. Scapulars, greater coverts, curved tertials,

rump and tail-coverts, belly and abdomen, ink-black. The border of the wings, greater quills, and tail, brownish-black.

The female so closely resembles in her colours the female of the Common Eider as to render minute description unnecessary. She may, however, always be distinguished from the other by the form of the frontal plates, which, instead of being horizontal, are nearly vertical. Female.

The young males resemble the females for the first year, and the changes seem to occur like those of the Common Eider.

GENUS FULIGULA, *RAY, LEACH.* POUGHARD.

GENERIC CHARACTERS.

BILL as long as the head; slightly elevated at the base; broad, and nearly equally so throughout its length; depressed towards the tip, which is rounded and armed with a small deflected nail. Both mandibles laminated; the plates broad, and entirely concealed by the deflected margins of the bill. Nostrils at a short distance from the base, lateral, oblong, rather small. Wings concave, acute; the first and second quill-feathers being nearly equal in length. Tail generally short, rounded, consisting of sixteen or fourteen pointed feathers. Legs having the tarsus much shorter than the middle and outer toes. Feet large, webbed, with the outer and middle toes of equal length; hind toe having a large lobated membrane. General form short and broad; with the neck rather thick and short; and the legs placed far backwards.

The members of this genus, which are numerous, have the bill of similar shape to that of the former subfamily, but

the laminated plates are larger and coarser, and entirely concealed by the margins of the mandibles. In general form they are also much shorter, thicker, and more depressed; and the backward situation of the legs, with the great size of their feet, make them move awkwardly and badly on and. They swim well, though apparently deep in the water, from their flattened shape; and they are excellent divers. It is in this latter mode, indeed, they obtain the chief part of their food, consisting of aquatic plants and their roots, as well as mollusca and worms. They inhabit the rivers and lakes of the interior of the country, and some of them are occasionally found on the sea-coasts. The tracheal organization of the whole genus is upon one uniform plan, and the differences are only such as might naturally be expected in distinct species. The lower extremity or labyrinth consists of a bony box, or, as it is called, *Orca*, formed by the enlargement and ossification of the lower larynx; from the bottom of which the right bronchial tube issues. On the left side of the *orca*, and attached to it, is a large orbicular compressed chamber, called the Tympanum or *Drum*, formed by a bony arch, more or less covered by a thin membrane; and to the base of this the left bronchial tube is attached. The flight of the members of this genus is rapid; and sustained by quick strokes of the wings; and is often at a great elevation in the air. Their colours are generally plain, and not possessing much variety; and none of them have the metallic lustre on the secondary quills that distinguishes most of the *Anatina*, which in them has been appropriately termed the Beauty Spot, or *Speculum*. They are natives of the Arctic Regions, passing the summer in very high latitudes; and in the winter their equatorial migrations are more or less extended according to the severity of the season. Their flesh is tender and palatable; in some species of fine flavour, as in *Fuligula Vallisneria*, from North America.

RED-HEADED POCHARD.

FULIGULA FERINA, Steph.

PLATE LXIII. FIG. 1.

Fuligula ferina, Steph. Shaw's Zool. 12. 193.*Anas ferina, Linn.* Syst. 1. 203. sp. 31.—*Gmel.* Syst. 1. 530.—*Lath.* Ind.Ornith. 2. 862. sp. 77.—*Wils.* Amer. Orn. 8. 119. pl. 70. fig. 6. male.*Anas rufa, Gmel.* Syst. 515. 71.—*Lath.* Ind. Orn. 2. 863. sp. 78.*Anas fera fusca, Raii* Syn. 143. A.*Nyroca ferina, Flem.* Brit. Anim. 1. 121. No. 182.*Penelope, Briss.* Orn. 6. 384. 19. t. 35. f. 1.*Milouin, Buff.* Ois. 9. 216.—*Id.* Pl. Enl. 803. male.*Canard Milouin, Temm.* Man. d'Orn. 2. 868.*Die Tafel-Ente, Bechst.* Naturg. Deut. 4. 1028.—*Meyer, Tasschenb.* Deut. 2. 527.*Pochard, or Red-headed Wigeon, Penn.* Br. Zool. 2. 600. No. 284.—*Arct.**Zool.* 2. 491.—*Albin's* Birds, 2. pl. 98.—*Lath.* Syn. 6. 523.—*Id.* Sup.2. 354.—*Id.* in *Trans. Linn. Soc.* 4. 116. pl. 14. f. 5. 6. (Trachea).—*Lewin's* Br. Birds, 7. pl. 253.—*Mont.* Ornith. Dict. and Sup.—*Bewick's**Br. Birds*, ed. 1826, p. t. 353.—*Wils.* Amer. Orn. 8. 119. pl. 70. f. 6.—*Flem.* Br. Anim. 1. 121. sp. 182.

PROVINCIAL.—Poker, Dun-Bird, Red-headed Poker, Great-headed Wigeon, Blue Poker, Vane-headed Wigeon, Attile Duck, Dun-Cur.

IN the Fens of Lincolnshire, Norfolk, and other eastern, as well as some of the southern counties, the Pochard is a common and well-known species during its winter migration, and is sent in great numbers to the London market (where it is sold under the name of the *Dun Bird*); but from its diving propensity, and the alarm it frequently creates, it is ever an unwelcome visitor to the decoys. In the northern parts of England and in Scotland it is comparatively of rare occurrence, either from the deficiency of some particular aquatic plants and grasses, or from these districts being out of its migratory line from the north-eastern parts of Europe. It is almost always seen upon the water, where it swims very rapidly, but apparently deep, arising from its flattened form. It dives well, and mostly for its food; remaining for a long time under the surface. It has also great swiftness on wing; and when in flocks, Pochards always fly in a very

Periodical
visitant.

compact body, and not in the triangular shape that we see in wild ducks, &c.—MONTAGU, in the Supplement to his Ornithological Dictionary, states, that vast quantities of these birds were formerly taken by nets, in a way similar to that in use for catching Woodcocks. Poles were erected at the avenues of the pools, or of the decoys, to which the birds resorted; and when great numbers had collected there, a net at the darkening was raised by pulleys attached to the poles, beneath which had previously been dug a deep trench or pit. The Pochards (which, like many of the Anatidæ, feed at night-fall), on quitting the pool, flew into the net, and fluttering downwards, were received into the pit, from whence they were unable to rise. Twenty dozens, it is said, have thus been taken at one flight. This mode of capture, however, is not now resorted to, from the decreased numbers of water-fowl throughout the kingdom, in consequence of the general system of draining; and the birds sent to market now are either caught in the common decoy, or killed by the fowling-piece. The present is a widely-spread species, inhabiting during summer the north-eastern parts of Europe, Northern Asia, and North America. In winter its migrations sometimes extend tolerably far to the southward, as it is reported to have been met with in Egypt; and in America, during that period, it is plentiful in South Carolina and Louisiana. It is usually found in fresh-water lakes, rivers, and marshes; but occasionally on the sea-coast, near to the mouths of rivers.—It breeds amongst the aquatic herbage, and is stated to lay twelve or thirteen eggs, of a greenish-white. The Pochard soon becomes very tame when in confinement, and will thrive well upon grain, &c. if supplied with free access to water; being unable to exert itself much on land, from the position of its legs, and the great size of its feet. The trachea of the male is of nearly an equal diameter for upwards of two-thirds of its length; from thence it gradually contracts to its junction with the *orca*, or box; and is composed of *entire* cylindrical rings. The *orca* is not

Nest, &c.

much elevated, and forms an oblique line with the trachea. The tympanum, or drum, is about half an inch in diameter and the membrane of the exterior face is divided by a mesial bony arch. The flesh of this bird is tender and well-flavoured; unless killed in the neighbourhood of the sea, when it frequently acquires a rank and fishy taste.

PLATE 63. Fig. 1. represents the Male Pochard, of the natural size.

Bill bluish-grey, with the tip and base black. Tarsi and toes bluish-grey, with the membranes darker. Irides yellow. Head and neck deep orange-brown. Mantle, breast, and rump, black. Lower part of the back, scapulars, wing-coverts, thighs and flanks, greyish-white, with numerous zigzag lines of black. Belly and abdomen skim-milk-white, with pale ash-coloured waving lines. Quills and tail ash-grey.	General description. Male.
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The following is the description of a variety, killed upon the Northumberland coast, and now in my collection:—

Head and neck bright reddish-orange, passing into reddish-white upon the crown. Breast very pale broccoli-brown, with a silky lustre. All the rest of the body greyish-white, with numerous very fine zigzag lines of a darker shade. Quills and tail plain greyish-white. Legs and toes ash-grey, with the membranes darker.

Variety.

RED-CRESTED POCHARD.

FULIGULA RUFINA, Steph.

- Fuligula rufina*, *Shaw's Zool.* 12. 188. pl. 54.
Anas rufina, *Pull. Reis.* 2. 713.—*Gmel. Syst.* 1. 541. 118.—*Lath. Ind. Orn.* 2. 870. sp. 94.—*Varrell*, in *Zool. Journ.* 2. 492.
Anas capite rufo major, *Raii Syn.* 140.—*Will. Orn.* 279.
Anas fistularis cristata, *Briss.* 6. 398. 22.
Le Canard siffleur huppé, *Buff. Ois.* 9. 182.—*Id. Pl. Enl.* 928. male.—*Temm. Man. d'Ornith.* 2. 864.
Kolbenente, *Bechst. Naturg. Deut.* 4. 1021.—*Meyer*, *Tasschenb.* 2. 518.
Great Red-headed Duck, *Will. (Angl.)* 364.
Red-crested Duck, *Lath. Syn.* 6. 544. 82.
Red-crested Pochard, *Shaw's Zool.* 12. 188. pl. 54.

Rare visitant.

I have admitted this species into the list of our Fauna, as a rare visitant, on the authority of Mr YARRELL, who (in the second volume of the Zoological Journal) has described an immature male, that was shot near Boston in Lincolnshire in January 1826, on fresh-water, whilst feeding in company with some Wigeons. It is a native of the north-eastern parts of Europe, and of northern Asia; and, during its winter migration, is met with in Turkey, Hungary, and Austria, as well as on the shores of the Caspian Sea, occasionally extending its flights as far westward as the lakes of Switzerland and Italy. It exceeds the Red-headed Pochard in size, and is a handsome bird in plumage and general appearance. In the tracheal organization, the tube (according to TEMMINCK) undergoes a sudden contraction a little below the upper larynx, and again where it is joined to the labyrinth, which latter part is formed of the *orca* and *tympanum*, approaching in shape and size to those of the preceding species. The present bird inhabits fresh-water lakes and the rivers of the interior of its respective countries, and is rarely found on sea-coasts, living on aquatic plants, seeds, and molluscous animals. Its summer retreats, and the particulars of its nidification, remain in obscurity.

Food.

In the Adult Male, the bill and irides are vermilion-red; General description. the nail of the former being white. Legs orange-red, with the membranes black. Head, cheeks, and upper part of the neck, bright chestnut-brown, with the feathers long and silky, forming a rounded kind of crest. Lower part of the neck, breast, belly, and abdomen, deep black. Back, wings, and tail, yellowish-brown. Flanks and sides, bend of the wings, basal part of the quills, speculum, and semilunar patch over each shoulder, white. Male.

The following is the description given by Mr YARRELL of the Young Male above referred to. Irides and bill bright vermilion, with the nail white. Sides of the head and neck chestnut, but lighter in colour at the top of the head, where the feathers are elongated, forming a crest. The nape and lower part of the neck dark brown. Upper part of the back and scapulars light brown. Wing-coverts ash-brown; over each shoulder is a white semi-lunar patch; speculum white; the shafts and a part of each wing primary white, the edges and tip dusky. Abdomen light brown. Under surface of the wings, sides, and flanks, white, tinged faintly with pink. Tail-feathers ash-brown. Upper and under tail-coverts dark brown. Legs and toes orange, with the webs black. Young Male.

The Female has the crown of the head, occiput, and nape of the neck, deep umber-brown, with the crest less conspicuous than in the male. Checks, throat, and sides of the neck, pale broccoli-brown. Back, wings, and tail, yellowish-brown, tinged with ochreous-yellow. No patch of white on the shoulders. Speculum greyish-white. Bill, legs, and toes, brown, tinged with tile-red. Female.

NYROCA POCHARD.

FULIGULA NYROCA, Steph.

PLATE LXIII. FIG. 2.

Fuligula Nyroca, Stephens, Shaw's Zool. 12. 201. pl. 55.*Anas Nyroca*, *Gmel. Syst.* 1. 542.—*Lath. Ind. Orn.* 2. 869. sp. 91.**Anas Africana*, *Gmel. Syst.* 1. 522.—*Lath. Ind. Orn.* 2. 875. sp. 104.—*Bullock*, in *Trans. Linn. Soc.* 11. 178.*Anas ferruginea*, *Gmel. Syst.* 1. 528.—*Lath. Ind. Orn.* 2. 866. sp. 84. ?*Nyroca leucophthalmos*, *Flem. Br. Anim.* 1. 121. sp. 181.La Sarcelle d'Egypte, *Buff. Ois.* 9. 273.—*Id. Pl. Enl.* 1000.Canard à Iris blanc, ou *Nyroca*, *Temm. Man. d'Ornith.* 2. 876.Die Weissaugige Ente, *Meyer, Tasschenb. Deut.* 2. 526.Tufted Duck, *Lath. Syn.* 8. 541. 79. var. A.African Teal, *Lath. Syn.* 6. 555.Ferrugineous Duck, *Penn. Br. Zool.* 2. 801. No. 285. ?—*Mont. Supp.* to *Orn. Dict.*Castaneous Duck, *Mont. App. to Sup. Ornith. Dict.*Olive Tufted Duck, *Son. Br. Miscell.* 1. pl. 21.White Eye, *Flem. Br. Anim.* 1. 121. sp. 181.*Nyroca Pochard*, *Shaw's Zool.* 12. 201. pl. 55.

As it still appears doubtful to what species the *Ferruginous Duck* of PENNANT's British Zoology should be referred, I have quoted the synonym in the present instance, with a query as to its correctness. MONTAGU, in the Supplement to his Ornithological Dictionary, conceived PENNANT's bird to be the female of the one he described under the title of the *Ferruginous Duck*, but which, according to his description, seems to have been a young male of the *Nyroca*. Afterwards, in his Appendix to the Supplement, upon an examination of the proper female of the *Nyroca*, he changed his opinion, being unable to reconcile it with the short account in PENNANT; and the subject of which, he there suggests, may possibly be the *Nyroca* in its young state, though he seems more inclined (from the figure in PENNANT's work) to suppose it to be actually a *female Wigeon* in the autumnal plumage. In Britain, the *Nyroca Pochard* is considered a scarce bird, and indeed, till within a few years past, was reckoned one of our rarest visitants. Of late, however, it

Rare visitant.

ROOK.

CORVUS FRUGILEGUS, Linn.

PLATE XXXII.

- Corvus frugilegus*, *Linn. Syst.* 1. 156. 4.—*Gmel. Syst.* 1. p. 366. sp. 4.—*Lath. Ind. Ornith.* v. 1. p. 152. sp. 5.
Cornix nigra frugilega, *Raii Syn.* p. 83. A. 3.—*Will.* p. 84. t. 18.
Cornix frugilega, *Briss.* 2. p. 16. 3.
 Le Freu ou Frayonne, *Buff. Ois.* v. 3. p. 55.—*Id.* Pl. Enl. 484.
 Freux, *Temm. Man. d'Ornith.* v. 1. p. 110.
 Saat-Rabe, *Bechst. Naturg. Deut.* v. 2. p. 1199.—*Meyer, Tasschenb. Deut.* v. 1. p. 97.—*Frisch. Vög.* t. 64.
 Rook, *Br. Zool.* v. 2. 221. 76.—*Aret. Zool.* 2. p. 250. A.—*Will. (Ang.)* p. 123.—*Lewin's Br. Birds*, 1. t. 35.—*Lath. Syn.* 1. p. 372. 4.—*Id. Supp.* p. 76.—*Mont. Ornith. Dict.*—*Bewick's Br. Birds*, 1. p. 71.—*Pull. Cat. Dorset.* p. 4.—*Shaw's Zool.* v. 7. p. 347.

THE rook is in general rather larger than the Carrion-Crow, from which it greatly differs in habits. Its bill is also longer, the upper mandible weaker, and not so much arched, and the glossy tint of its plumage more inclined to purple.

In the adult state it is easily distinguished by the naked and scurfy white skin at the base of its bill and on the chin, produced by the abrasion of its bristly feathers, which, in the young bird, cover this part and the nostrils*: These feathers are generally worn off by constant thrusting of its bill into the soil in search of worms and the larvæ of the different insects, that form its principal food. It also eats grain and other seeds. The Rook has erroneously been viewed in the light of an enemy by most husbandmen, and in several districts attempts have been made either to banish it, or to extirpate the breed. But wherever this measure has been

* Mr BEWICK holds this to be an original peculiarity, and not produced by the above mentioned cause; and says, that the same appearance has been observed in those brought up in a domesticated state, and not undergoing the usual method of subsistence. I have kept Rooks till they have been more than a year old, without noticing any approach to this peculiarity; and, in a wild state, it is usually apparent before that period.

carried into effect, the most serious injury to the corn and other crops has invariably followed, from the unchecked devastations of the grub and caterpillar. As experience is the sure test of utility, a change of conduct has in consequence been partially adopted; and some farmers now find the encouragement of the breed of Rooks to be greatly to their interest, in freeing their lands from the grub of the cockchafer (*Melolontha vulgaris*), an insect very abundant in many of the southern counties. In Northumberland I have witnessed its usefulness in feeding on the larvæ of the insect commonly known by the name of *Harry Longlegs* (*Tipula oleracea*), which is particularly destructive to the roots of grain and young clovers. Rooks are strictly gregarious, not only breeding, but living and seeking their food together, during the whole year, in numerous societies. They breed on the same trees, and generally occupy the same nest through successive years, and none but natives are permitted to become members of each society*.

They frequent cultivated districts, and the loftiest trees in the immediate vicinity of old country residences, are generally chosen for their habitations. There are even many instances of colonies being established in the middle of populous cities and towns, where they have been allowed to breed unmolested.

Early in the spring, as the season of pairing, and the period of incubation approach, the rookery exhibits an amusing scene of provident industry, which is described in WHITE's Natural History of Selborne, with the author's characteristic and strong touches.

During incubation the female bird is assiduously attended and fed by the male, whose kind offices she receives with flut-

* A remarkable instance of their aversion to strangers is given by BEWICK in his history of the Rook; and a curious account of the contentions between two colonies of Rooks and Herons, is narrated in HUTCHINSON'S History of Cumberland.

tering wings, open beak, and the same interrupted note, that must have been generally observed in the young birds.

The eggs of the Rook are four or five in number, of a bluish-green colour, blotched with darker stains. After the young have taken wing, the old birds sometimes forsake the nest-trees, but invariably return to them again in October, at which time they are observed occasionally to repair their nests.

The Rook is common throughout England, and the greater part of Scotland. It is a native of most of the temperate European regions, and of some parts of Asia. According to LATHAM, it is migratory in France and Silesia, and he adds, that it is a singular circumstance the Islands of Jersey and Guernsey should be without Rooks, particularly when it is ascertained that they frequently fly across the channel, from this country to France.

PLATE 30. Figure of the natural size.

Bill bluish-black, the base, in the adult bird, denuded of feathers, and covered with a white scurf. Whole plumage black, glossed with rich tints of blue and violet-purple. Feathers on the back of the neck long, loose, and silky. Legs and claws black.

General
description.

This bird is subjected to considerable variation of plumage, being sometimes found of a pure white, or of a piebald appearance. I possessed two of a sienna-yellow colour, with the wings and tail inclining to yellowish-grey, with red irides, and with the bill, legs, and toes, flesh-red, taken from the same nest, in which were also two of the usual colour.

JACKDAW.

CORVUS MONEDULA, Linn.

PLATE XXXI. FIG. 1.

Corvus monedula, Linn. Syst. 1. p. 156. 6.—Fau. Suec. No. 89.—Gmel. Syst. 1. p. 376. sp. 6.—Lath. Ind. Ornith. v. 1. p. 154. sp. 11.—Briss. 2. p. 24. 6.—Raii Syn. p. 40. t. 5.—Will. p. 85. t. 19.
 Le Choucas, Buff. Ois. v. 3. p. 69.—Id. Pl. Enl. 523.
 Choucas, Temm. Man d'Ornith. v. 1. p. 111.
 Die Dohle oder Turm-Rabe, Rechst. Naturg. Deut. v. 2. p. 1213.—Frisch, Vög. t. 67. and 68.—Meyer, Tasschenb. Deut. v. 1. p. 99.
 Jackdaw, Br. Zool. 1. No. 81. t. 34.—Arct. Zool. 2. p. 251.—White's Hist. Selb. p. 59. and 60.—Lath. Syn. 1. p. 378. 9.—Id. Supp. p. 78.—Lewin's Br. Birds, 1. t. 37.—Will. (Ang.) p. 125. t. 19.—Mont. Ornith. Dict.—Pult. Cat. Dorset. p. 5.—Bewick's Br. Birds, 1. 73.—Lowe's Fau. Orcad. p. 48. sp. 3.—Shaw's Zool. 7. p. 350.

PROVINCIAL.—Daw, Jack.

THIS well-known species is an inhabitant of all the cultivated districts of England and Scotland. The belfries of churches, old towers, and large deserted buildings, are its favourite abodes. These are its usual breeding places, but where such situations do not occur, it has recourse to the holes of decayed tress, or to the ledges of rocks, and has been

Nest, &c. known even to build in a rabbit burrow*.—The nest is composed of sticks, and lined with wool and other soft materials.

The eggs, which vary from four to seven, are of a pale greenish-blue, spotted with blackish-brown, rather confluent at the larger end.—The Jackdaw is an omnivorous bird, feeding upon worms, insects, grain, fruit, eggs of various birds, and carrion. It is gregarious, often associating in considerable numbers with Rooks during the autumn and winter. It can be easily domesticated, soon becomes remarkably familiar, and may be taught to articulate various words distinctly. It is, however, at the same time very mischievous, and, like the raven, has its peculiar hiding-places, where it not only de-

* See PENNANT's British Zoology.

posits part of its provision, but whatever it can purloin in the course of its domestic rounds.

It is generally found throughout Europe, and, according to TEMMINCK, is very abundant in Holland.

PLATE 31. Fig. 1. Natural size.

Bill black. Irides greyish-white. Top of the head black, with violet reflections, the feathers distinct and rounded. Back part of the head and nape of the neck dark smoke-grey, the feathers open and silky in texture. Upper parts greyish-black. Wing coverts and secondary quills black, glossed with blue and violet. Under parts bluish-black. Legs, toes, and claws, black.

General
descrip-
tion.

White varieties are sometimes met with, and in these the irides are red. Others entirely black, or black and white, are mentioned by different authors.

Varieties.

GENUS *PICA*, BRISS. PIE.

GENERIC CHARACTERS.

BILL strong, compressed, with the upper mandible arched, the tip slightly emarginate, and bent over that of the lower one. Commissure gently arched. Nostrils basal, lateral, round, hidden from view by incumbent setaceous feathers. Thighs short, rounded; the first quill-feather narrow, and little more than half the length of the second; the fourth and fifth of nearly equal length, and the longest in the wing. Tail long, and graduated.

Legs of mean length, with the tarsi and toes plated. Outer toe joined at its base to the middle one. Claws strong, and curved; that of the hind toe the largest.

The Pies, although nearly allied to the Crows, differ sufficiently from them in form and habits, to warrant the generic separation first made by BRISSON, and since adopted by most

ornithologists of the present day. Besides our well-known bird, the Common Magpie, this genus contains several exotic species, as *Pica albicollis*, *Pica Erythorynchos*, *Pica vagabunda*, &c. ; of all which the Magpie perhaps approaches nearest to the true Crows, the bill being longer and less curved than in the other species, and the texture of the plumage not so silky, or decomposed. Its members are also nearly connected with the Jays (genus *Garrulus*), by the intervention of certain species of the latter, in which the tail, instead of being square, becomes slightly rounded, or cuneated. Their flight, from the roundness of their wings, differs from that of the Crows, and is supported by short and quick strokes. They are omnivorous, and birds of a bold character ; and (like most of the *Corvidæ*), when tamed, are much addicted to carrying off any glittering objects. They have rough and disagreeable voices, but may be taught to whistle, and even to articulate words with tolerable distinctness.

MAGPIE.

PICA MELANOLEUCA, Vieill.

PLATE XXXI. FIG. 2.

Corvus Pica, *Lin.* Syst. 1. p. 157. 13.—*Fau.* Suec. No. 92.—*Gmel.* Syst. 1. p. 373.—*Lath.* Ind. Ornith. v. 1. 162. sp. 32.—*Raii* Syn. p. 41. A. 1.—*Will.* p. 87. t. 19.—*Briss.* 2. p. 35. 1.—*Wils.* Amer. Orn. v. 4. p. 75. Pl. 35. f. 2.

La Pie, *Buff.* Ois. v. 3. p. 85.—*Id.* Pl. Enl. 488.

Pie, *Temm.* Man. d'Ornith. v. 1. p. 113.

Garten-Grabe, *Bechst.* Naturg. Deut. v. 2. p. 1267.—*Frisch*, Vög. t. 14.

Magpie, *Br.* Zool. 1. No. 78.—*Arct.* Zool. 2. No. 66.—*Lewin's* Br. Birds, t. 39.—*Will.* (Ang.) p. 127. t. 19.—*Lath.* Syn. 1. p. 392. 29.—*Id.* Supp. p. 80.—*Mout.* Ornith. Dict.—*Bewick's* Br. Birds.—*Pull.* Cat. Dorset. p. 5.—*Don.* Br. Birds, 4. t. 95.—*Shaw's* Zool. 7. p. 369.—*North.* Zool. 2. 292. No. 95.

PROVINCIAL—Pianet, Madge.

THIS common but handsome species is generally dispersed through the united kingdom, except in very mountainous districts. It is a bird of a crafty and restless disposition,

and, although shy, and singularly wary, is frequently seen near the habitation of man.—In diet, it is omnivorous. No Food. animal food, observes MONTAGU, comes amiss to its voracious appetite. It preys indiscriminately upon young poultry, eggs, and tender lambs, as well as the most offensive carrion. Is very destructive to the young of all kinds of game, and does not refuse grain, insects, and worms.

These birds are usually observed in pairs, and continue together through the whole year. At times, however, they appear to hold social meetings, during which they are very clamorous, and maintain a continued chattering. In winter, they often assemble in numbers to roost in particular districts, but separate again through the day. When an old bird of this species has been shot, or caught in a trap, during the breeding season, I have frequently been surprised at the short period that intervened before the survivor was provided with another mate, in some instances scarcely exceeding the space of a day.

In the fabrication of its nest, the Magpie displays wonder- Nest, &c. ful ingenuity, rendering it not only a sheltered and warm residence for its young, but even a secure fortress against external enemies. The outer part is composed of sticks, lined with a thick plastering of clay, on which is disposed a soft bed of the small fibres of roots and dry grass. Over the body of the nest is erected a covering or dome, composed of the sharpest thorny twigs (those of the black or sloe thorn being generally preferred), closely interwoven, so as to preclude all entrance except at one or two small lateral holes, barely large enough for the admission and egress of the owners. The number of the eggs is from six to eight, of a yellowish-grey colour, speckled with yellowish-brown. The place selected for nidification varies, depending on the facilities afforded, but always with a view to security. Where trees abound, that which is loftiest, or difficult of access, is chosen, and, in failure of these, the most impenetrable hedge or thorn bush. If taken young, it soon becomes tame, and,

like others of this genus, may be taught tricks, and the articulation of some words. When alarmed, the Magpie gives warning to all other birds and animals of the approaching danger by its chattering note, the import of which appears to be understood, and universally attended to. In the northern parts of England, the lingering remains of popular superstition still attach to the appearance of this bird, and various are the events predicted from the numbers seen together, their mode of flight, &c. The species is found in most of the temperate and northern regions of the Old Continent; and in Asia, it is met with inhabiting the plains, in Siberia, and as far as Kantschatka. According to TEMMINCK and Dr RICHARDSON, this bird exhibits also no specific difference in many parts of North America.

PLATE 31. Fig. 2. Natural size.

General
description.

Bill black, with a small notch at the tip. Irides dark brown. Head, neck, back and breast black. The feathers on the throat very open in the texture, having but few barbs, and terminating with a bristle. Scapulars and belly white. Adjoining the tail-coverts is a bar of greyish-white, loose silky feathers. Rump and vent black. Wings glossed with blue and green reflections. The central parts of the inner webs of the quill-feathers white. First quill-feather very short, the fourth and fifth being the longest. Tail about ten inches in length, bluish-black, glossed with golden-green, blue, and purple, producing in different lights the richest iridescent reflections; is very wedge-shaped, the feathers rapidly decreasing in length to the outermost, which are scarcely half the length of the two central feathers, which are even. Legs and claws black. The female resembles the male bird, but is generally inferior in size.

GENUS GARRULUS, *BRISS.* JAY.

GENERIC CHARACTERS.

BILL shorter than the head, conical, slightly compressed, strait at the base, rather deflected towards the tip, which is faintly emarginated. The lower mandible of nearly equal thickness, and having its culmen equally convex with that of the upper. Commissure strait. Head crested. Nostrils basal, lateral, hidden from view by short setaceous plumes.

Wings rounded, with the first quill-feather short; the fourth, fifth, and sixth of nearly equal length, and the longest in the wing. Tail of mean length; square, or slightly rounded. General plumage loose and soft.

Legs weaker than in genus *Corvus*. Tarsi longer than the middle toe. The outer toe joined at its base to the middle one, and longer than the inner. Hind toe strong, with a dilated sole. Claws stout, moderately curved, and sharp; that upon the hind toe stronger and longer than any of the rest.

The Jays form a well-distinguished group among the *Corvidæ*, and, with other nearly allied forms, are considered by Mr SWAINSON as composing one of the five minor divisions of the family under the title of *Garrulina*. In their habits, they are more arboreal, or addicted to perching, than the preceding genera; and inhabit woods and forests. Their food is not of so general a character, being more restricted to insects, larvæ, fruits, and pulse, though they occasionally suck the eggs, and devour the young, of smaller birds. They are of a restless and noisy disposition, and their notes are usually harsh and unpleasant. The Jays belonging to the Old World form a marked group, and bear a strong resemblance to each other. Those of the New Continent are distinguished by the rich blues of their plumage, which

prevails to a greater or less degree throughout most of the species. It is probable that a strict examination may shew the propriety of further division in this genus.

JAY.

GARRULUS GLANDARIUS.

PLATE XXXVI.

Corvus glandarius, *Linn. Syst.* 1. p. 256. 7.—*Gmel. Syst.* 1. p. 378.—*Lath. Ind. Orn.* 1. p. 157. 18.—*Raii Syn.* p. 41. A. 2.—*Vill.* p. 88. t. 29.

Garrulus, *Briss.* 2. p. 49. 1.

Le Geai, *Buff. Ois.* v. 3. p. 107. t. 8.—*Id.* Pl. Enl. 481.—*Geai*, *Temm. Man. d'Ornith.* v. 1. p. 114.—*Le Vaill. Ois. de Parad.* et *Geais*. Pl. 40. and 41.

Pica glandaria, *Klein. Av.* p. 61. 21.

Eichel Krahe, *Bechst. Naturg. Deut.* v. 2. p. 1243.—*Frisch*, *Vög.* t. 55.

Jay, *Br. Zool.* 1. No. 79.—*Arctic Zool.* 2. p. 252. F.—*Will. (Ang.)* p. 130. t. 19.—*Lewin's Birds*, t. 38.—*Hays's Br. Birds*.—*Lath. Syn.* 1. p. 384. 19.

—*Id. Suppl.* p. 79.—*Mont. Ornith. Dict.*—*Id. Suppl.*—*Pult. Cat. Dorset.* p. 5.—*Walc. Syn.* 1. t. 37.—*Bewick's Br. Birds*, 1.—*Shaw's Zool.* v. 7. p. 356.

PROVINCIAL—Jay-Pie.

THE Jay may certainly be ranked as one of the handsomest of our indigenous birds.—It is very common in many parts of England and Scotland, particularly in districts where trees are abundant, and is well known by its disagreeable cry.—Its food consists of acorns, beech-mast, grain, and various productions of the garden, amongst which cherries and pease are particular favourites. It also devours insects and worms, and will often not only suck the eggs, but destroy the young of small birds.—Its nest is generally placed in the closest thickets of large woods, and is formed of sticks, lined with the fibres of roots. The eggs are five or six in number, of a pale blue colour, obscurely blotched with yellowish-brown.

The progeny are said by Mr FENNANT to follow the parent birds till the succeeding spring, but I have not been able to satisfy myself as to this fact.

Although the usual notes of this bird are harsh and grating to the ear, yet, we are told by MONTAGU, that it is capable

of uttering a pleasant though low sort of song in the spring time, introducing at intervals the bleating of a lamb, mewing of a cat, the note of a hawk, the hooting of an owl, and even the neighing of a horse, and these imitations given with such exactness as to deceive many who have heard them. The Jay is frequently tamed, not only on account of the beauty of its plumage, but for the facility with which it learns to articulate words, and to imitate a variety of sounds. BEWICK mentions one that could perform the noise made by the action of a saw, and another that had been taught to hound a cur dog, on the approach of cattle.

These birds are found in most of the temperate parts of Europe, and in France are even abundant, but seldom congregate largely.*

PLATE 32. Natural size.

Bill black, conical, slightly notched at the tip. Commissure strait. Irides pearl-grey. Forehead and crown of the head streaked with black, the feathers elongated and narrow, and forming a crest, which it can erect or depress at pleasure. From the corners of the mouth are black *moustaches*, pointing downwards. Chin white. Hind part of the head, back, and scapulars light brownish-purple-red. Rump, breast, and belly white. Lesser wing-coverts brownish-orange. Greater coverts beautifully barred with blue and black; the feathers stiff and compact. Greater quills dusky, the outer webs bluish-grey. The six anterior secondaries black, having the outer web white towards the base, the two next entirely black, the rest brownish-red, tipped with black. Tail black, square at the end, the middle feathers having one or more pale grey bars at the base. Legs flesh-red,

General
description.

* Several beautiful species of the Jay have lately been brought from the Himalayan range of mountains, agreeing with the European type in form, and, in a great measure, in the disposition also of their colours. Some of these are figured in GOULD'S "Century of Himalayan Birds."

tinged with yellowish-brown. The female is similar in plumage to the male.

Accidental varieties are sometimes found of a pure white, with the wing-coverts pale blue. In such instances, the bill, irides, and legs are pale flesh-red.

GENUS FREGILUS, *Cuv.* CHOUGH.

GENERIC CHARACTERS.

Bill longer than the head, strong at the base, arched, slightly compressed, with the end of the upper mandible rather subulated, drawn to a point without any emargination, and extending beyond that of the lower, which follows the curve of the upper one, without showing any distinct angle. Commissure arched. Tomia of both mandibles entire. Nostrils basal, oval, hidden by closely-set incumbent setaceous feathers. Head small, and flat. Wings long, extending to more than two-thirds of the length of the tail. First quill-feather short; the fourth and fifth the longest in each wing. Tail square, or slightly rounded. Nostrils open, basal, lateral and egg-shaped, hidden by the reflected bristles at the base of the bill. Feet strong. Legs and toes plaited. The tarsus longer than the middle toe. Toes four, three before and one behind; the outer toe united at its base to the middle one. Claws strong, much curved; that of the hind toe double the size of the others.

The birds of this genus (which was established by CUVIER for the reception of the *Cornish Chough*, and other exotic species) are easily distinguished from the true Crows by the peculiar form of the bill, which indicates a different economy, and approaches near to that of *Epimachus*, and some of the *Birds of Paradise*, and to which it seems to lead the way. These birds are the inhabitants of lofty precipices on

the sea-coast, and of alpine rocks in the interior of the countries to which they belong. They feed chiefly on insects and larvæ, sought for in holes and crevices, are of a bold and inquisitive disposition, but at the same time very wary of danger, seldom admitting of a near approach.

CORNISH CHOUGH.

FREGILUS GRACULUS, Cur.

PLATE XXXIII.

Pyrrhocorax graculus, *Temm.* Man. d'Ornith. v. 1. p. 122.

Corvus graculus, *Linn.* Syst. 1. p. 158. 18.—*Gmel.* Syst. 1. p. 337.—*Lath.* Ind. Ornith. v. 1. p. 165. 41.

Corvus docilis, *Gmel.* Syst. 3. p. 385. t. 39.

Coracias, seu *Pyrrhocorax*, *Raii* Syn. p. 40. A. 6.—*Will.* p. 86. t. 19.—*Briss.* 2. p. 3. t. 1.

Corvus cremita, *Gmel.* Syst. 1. p. 377.—*Lath.* Ind. Ornith. 1. p. 166. 42.

Le Coracias, ou *Le Coracias Huppe* ou *sonneur*, *Buff.* Ois. v. 3. p. 1. and 9. t. 1.—*Id.* Pl. Enl. 255.

Stein-Krahe, *Bechst.* Naturg. Deut. v. 2. p. 1238.—*Id.* Tasschenb. Deut. p. 91.—*Meyer*, Tasschenb. Deut. v. 1. p. 101.—*Id.* Vög. Deut. t. Heft.

Hermit Crow, *Lath.* Syn. 2. p. 403. 41.—*Gesner's* Wood Crow, p. 396.

Cornish Chough, *Albin.* 2. t. 24.—*Will.* (Ang.) p. 126. t. 19.—*Hays's* Br. Birds, t. 6.

Red-legged Crow, *Br. Zool.* 1. No. 80. t. 35.—*Lawin's* Br. Birds, 1. t. 41.—*Lath.* Syn. 1. p. 401.—*Mont.* Ornith. Dict.—*Id.* Suppl.—*Pull.* Cat. Dorset, p. 6.—*Bewick's* Br. Birds, 1. p. 80.—*Shaw's* Zool. 7. p. 378.

PROVINCIAL.—*Cornish Daw*, *Cornwall Kae*, *Killigrew*, *Chauk-Daw*,
Market-Jew Crow.

THE Chough is far from being a numerous species in this country, and is confined to particular districts. It is found on the rocky coasts of Cornwall and Devonshire in England, and in Flintshire, Denbighshire, and the Isle of Anglesea in Wales; and abounds in the Isle of Man. In Scotland, it inhabits the precipices of some of the Hebrides, and the western shores of the mainland.* On the Continent, it is numerous in the Swiss Alps, and in the Tyrol, frequenting

* It is also met with in the neighbourhood of Berwick-on-Tweed, upon the high and rocky coast about St Abb's Head, and Coldingham.

the loftier regions, and the confines of the glaciers, where it breeds, associated with the Alpine Chough (a species of the nearly-allied genus *Pyrrhocorax*). With us, it is seldom seen far inland, breeding on the sea-cliffs, or in old castles and church-towers near the shore.—The nest is formed of sticks, lined with a great quantity of wool and hair. The eggs are of a bluish-white colour, speckled at the larger end with yellowish-brown. It is a bird of a lively gait, and of a restless and crafty disposition, and, like many of the Crow genus, its attention is particularly caught by glittering objects. Its natural food principally consists of insects, even the smallest of which it is enabled to reach in the crevices of rocks and the joints of walls, by the aid of its slender and sharp-pointed bill. It also eats grain and berries.

It has been remarked, that the Chough will not alight upon the turf, if it can possibly avoid it, always preferring gravel, stones, or walls. It is easily domesticated, when begun with at an early period; and an interesting account of a tame bird of this species is given by MONTAGU, in the Supplement to his Ornithological Dictionary, to which my readers are referred.

PLATE 33. Natural size.

General
description.

Bill long, slender, and considerably arched, of a beautiful orpiment orange-colour. Irides yellowish-brown. Whole plumage black, glossed with purple and blue. Legs and toes the same colour as the bill. Claws black, strong, and hooked.

The female is of a similar plumage to the male, but rather less in size.

The young of this species, according to TEMMINCK, have dark-coloured legs previous to the first moult; but MONTAGU asserts them to be orange-coloured from the nest.

GENUS NUCIFRAGA, *BRISS.* NUTCRACKER.

GENERIC CHARACTERS.

BILL conical, longer than the head, and strait; the upper mandible having its culmen rounded, and longer than the lower one; both of them terminating in a slightly obtuse point. The lower mandible of nearly equal thickness with the upper one, and tapering gradually from the base to the point. Commissure straight to the base; from thence backwards slightly angulated. Nostrils in the base of the bill round, open, and covered by the reflected frontal bristles. Wings long, rounded; the first quill short; the fourth and fifth equal to each other, and the longest in the wing. Tarsus longer than the middle toe. Feet with three toes before, and one behind. The outer toe joined to the middle one at its base. Claws not much curved, but very sharp.

This bird has also been very judiciously separated from the Crows by late ornithologists, essentially differing from that genus, not only in the conformation of its bill, but in its habits. In the latter respect it approaches nearer to the Woodpeckers, and seems to form a connecting link between the genera *Corvus* and *Picus* *. It is the only known species of this genus †.

* It forms apparently a still closer tie between the present and the preceding families; its bill being very similar in shape to that of *Cassicus*. Mr VIGORS makes this and *Barita* the introductory genera to the family of *Corvidæ*. See VIGORS "on Nat. Aff." p. 447.

† Another species has since been discovered in Central Asia, and figured in GOULD'S "Century of Himalayan Birds."

NUTCRACKER.

NUCIFRAGA CARYOCATACTES, Briss.

PLATE XXXIII *.

- Nucifraga Caryocatactes*, *Briss.* 2. p. 59. t. 5. f. 6.—*Temm.* Man. d'Ornith. 1. p. 117.
Corvus Caryocatactes, *Linn.* Syst. 1. p. 157. 10.—*Fau.* Succ. No. 91.—*Gmel.* Syst. 1. p. 270.—*Lath.* Ind. Ornith. 1. p. 164. t. 39.—*Raii* Syn. p. 42. 5.—*Will.* p. 90. t. 20.
Caryocatactes Nucifraga, *Nils.* Orn. Succ. v. 1. p. 90. sp. 42.
L'c Casse noix, *Buff.* Ois. v. 3. p. 122. t. 9.—*Id.* Pl. Enl. 50.
Nussrabe, *Meyer*, *Tascheub.* Deut. v. 1. p. 103.
Nutcracker, *Br.* Zool. Append. t. 1.—*Arct.* Zool. 2. 252. D.—*Will.* (*Aug.*) p. 152. t. 20.—*Lewin's* Br. Birds, t. 49.—*Lath.* Syn. 1. p. 400. 38.—*Id.* Supp. p. 82.—*Mont.* Ornith. Diet.—*Id.* Supp.—*Bewick's* Br. Birds.—*Walc.* Syn. 1. t. 38.—*Dougl.* Br. Birds, 4. t. 80.
Nutcracking Crow, *Shaw's* Zool. v. 7. p. 353.

Rare visitant.

THE Nutcracker is a very rare visitant in Great Britain. Not more than three or four instances are upon record of its having been observed in this country. To these I may add another, as this bird was seen in Netherwitton Wood, in the county of Northumberland, in the autumn of 1819, by my coadjutor in the delineations for this work, Captain ROBERT MITFORD of the Royal Navy.

Food.

According to the accounts given of this species by ornithologists who have had the opportunity of attending to its habits, it approaches, in many points, very closely to some of the genus *Picus*, particularly to those of foreign locality. Like them, it ascends the trunks of trees with facility, feeding on the various insects and larvæ that inhabit the bark and wood, which its long straight bill aptly enables it to reach, performing a similar office to the long extensile tongue of the Woodpecker. It feeds also upon the seeds of the different kinds of fir *, and upon nuts, which, like the Nut-

* My brother, during an excursion in Switzerland, September 1825, met with a large flock of Nutcrackers, in a forest mostly composed of pinasters and stone pines. These birds were all busily engaged, feeding upon the seeds contained in the cones. They were not wild, but allowed of a near approach.

in point of locality) in the hollow of a tree, in the manner of the Wood Duck (*Dendronessa sponsa*.) The eggs are stated to be from twelve to fourteen, and of a pure white. The flesh of the Golden-Eye, although inferior in flavour to that of many other Ducks, is tender and palatable, especially when deprived of its thick and oily skin; and in the market is indiscriminately sold for Wigeon. The trachea of the male bird is of singular conformation *, and differs from that of all the preceding species. In addition to the labyrinthic part (which is very large, consisting of an *orca* and *tympa-num*, placed *transversely* to the trachea, but of which it is impossible to convey an accurate idea by words), an extraordinary enlargement takes place about the middle of the tube itself. This ventricose part, observes MONTAGU, consists of the same cartilaginous rings as the rest of the wind-pipe, and is, in fact, only a great enlargement of the same structure, being at least four times the diameter of any other part, and upwards of three inches in length, when fully extended. It is so formed, by the inequality of its cartilaginous annulations, and the intermediate membranes, as to be not only capable of contracting to little more than an inch in length, but also of compression, its under part being, when in the contracted state, considerably flattened.

PLATE 62. Represents the adult Male (the *Golden-Eye*) and the Female (being the *Morillon* of some authors.)

Spot behind the base of the upper mandible pure white.
Forehead and chin brownish-black. The rest of the head, and the upper part of the neck, glossy duck-green, in some lights shewing a rich purple reflection. Lower part of the neck, breast, intermediate wing-coverts, the seven posterior secondaries, belly, and abdo-

General
descrip-
tion.
Male.

* For accurate figures of the tracheæ of the Anatidæ, &c. I refer my readers to Dr LATHAM's Essay, in the fourth volume of the *Linnean Transactions*, and to the admirable one of Mr YARRELL upon the same subject, published in the fifteenth volume of that work.

men, pure white (but in some the breast is tinged with sienna-yellow.) The long flank feathers having the outer part of their inner webs velvet-black. The vent, and behind the thighs, broccoli-brown. Exterior scapulars white, and having their outer webs margined with black. The rest of the scapulars, the long tertials, the mantle, and back, deep glossy black. Tail rather long, formed of sixteen feathers, broccoli-brown. Bill black, one inch and three-eighths long, from the angle of the forehead to the tip, with the nostrils placed nearer to the tip than the base. Legs and toes orange. Irides golden or gamboge yellow.

Female. Head, and upper part of the neck, umber-brown. Lower part of the neck or collar greyish-white. Upper part of the breast deep ash-grey, the feathers being margined with greyish-white. Dorsal plumage pitch- (or brownish-) black, the feathers of the mantle and outer scapulars being deeply margined with ash-grey. The intermediate wing-coverts brownish-black, blotched with greyish-white. Secondaries as in the male bird. Flanks, and behind the thighs, clove-brown, margined paler. The rest of the lower parts white. Bill having the tip saffron-yellow. Legs dirty orange, with the webs darker.

Young. The young males strongly resemble the females for the first year, but are larger, and may always be ascertained by the trachea. After the second moult the spot behind the bill appears, composed of black and white feathers, and the head and neck acquire the glossy green colour. The back also becomes darker, and there are indications of the exterior black and white scapulars. After the third moult the bird is matured.

• HARLEQUIN GARROT.

CLANGULA HISTRIONICA, *Leach*.

PLATE IX.

Clangula histrionica, *Flem. Br. Anim.* 1. 120. sp. 179.—*Shaw's Zool.* 12.

180. pl. 57.—*Faun. Amer. Boreal.* 2. 459. No. 218.

Canard à Collier, ou Histrion, *Temm. Man. d'Ornith.* 2. 878.

Canard Arlequin, *Cuv. Reg. Anim.* 1. 533.

Anas histrionica, *Linn. Syst.* 1. 204. 35.—*Gmel. Syst.* 1. 534.—*Lath. Ind.* Orn. 2. 849. sp. 45.

Anas torquata, *Briss. Orn.* 6. 362. 14.

Le Canard à Collier de Terre Neuve, *Buff. Ois.* 9. 250.—*Id. Pl. Enl.* 798.

Die Kragen-Ente, *Bechst. Naturg. Deut.* 4. 1037.—*Meyer, Tasschenb.* 530.

Dusky and Spotted Duck, *Edward*, pl. 99.

Harlequin Duck, *Penn. Arc. Zool.* 2. 490.—*Lath. Syn.* 6. 485. 38.—

Wils. Amer. Ornith. 8. 153. pl. 72. fig. 4.—*Mont. Ornith. Dict.* 1.—

Sowerby, Br. Misc. pl. 6.

Anas minuta, *Linn. Syst.* 1. 204. 36.—*Gmel. Syst.* 1. 534.

Querquedula freti Hudsonis, *Briss. Orn.* 6. 469. 41.

La Sarcelle brune et blanche, *Buff. Ois.* 9. 287.—*Id. Pl. Enl.* 799.

Little Brown and White Duck, *Edward*, t. 157.

Male.

THE Harlequin Garrot (so named from the singular marking of the male bird's plumage) is one of our rarest winter visitants, the instances of its capture being confined to three or four, all of which occurred in the northern parts of Scotland. It inhabits the northern regions of both the old and new continents, and is a well-known species in the north-eastern parts of Europe. In Siberia, Kamtschatka, and other countries of Asia it is equally abundant. In America, during its summer migration, it is met with in the interior of the country round Hudson's Bay, and also in the vicinity of the Rocky Mountains, where Dr RICHARDSON describes it as haunting the eddies under cascades, and amongst rapid streams. It is a bird of shy disposition and very vigilant; and (contrary to the habit of the other Garrots) takes wing at once when disturbed, flying swiftly, and at a great

- elevation, and, like the Golden-Eye, producing a loud whistling sound by the action of its wings.—It obtains its food principally by diving, searching the bottoms of the streams for the larvæ of insects, the roe of fish, and testaceous molluscæ. Its nest is said to be made upon the banks of rivulets, under the cover of low bushes or tall herbage, and its eggs, from ten to twelve in number, are stated to be of a pure white, and not much larger than those of a pigeon. During its summer migration it is found upon the coast, and frequently in deep water, at a considerable distance from land. It is to be regretted, that no author has described the anatomy of the trachea, as it so essentially contributes to establish the affinities of the species. In the form of the bill a slight difference is observable, as compared with that of the Golden-Eye, and the nostrils are placed nearer to the base, shewing its connexion with the genus *Harelda*.

PLATE 60. Represents the Male and Female of the natural size.

General description.
Male.

Bill bluish-black. Legs blackish-brown. From the base of the bill, reaching nearly to the eye, is a patch of white, which forms a streak from thence to the nape of the neck, terminating in pale reddish-brown. Medial band from the bill, to the hind part of the head, velvet-black. Nape of the neck, and sides of the throat, rich lavender-purple. Auricular patch, streak on the sides of the neck, lower neck-collar, crescent-shaped band on the shoulder, and longitudinal streaks upon the scapulars and tertials, pure white. Mantle, wings, and tail, liver-brown, tinged with lavender-purple. Lower part of the back and tail-coverts velvet-black. Breast and belly liver-brown. Sides and flanks orange-brown. Vent brownish-black. Speculum black, glossed with indigo-blue.

Female.

Upper parts of the body liver-brown, with the margins of the feathers paler. Upper part of the breast, and the

sides yellowish-brown, margined with brownish-grey. Flanks umber-brown. Abdomen and belly greyish-white, undulated with clove-brown. Spot between the bill and eye, and upon the ear-coverts, white. Chin and throat greyish-white.

The young males resemble in a great measure the females for the first year, and do not acquire the white collar till after the second moult.

SUBFAMILY MERGINA.

BILL narrow, cylindrical, with the margins toothed ; and the tip armed with a hooked nail.

GENUS *MERGUS*, LINN. *MERGANSE*.

GENERIC CHARACTERS.

BILL as long as, or longer than, the head, narrow, and almost cylindrical ; high at the base ; tapering towards the point, which is armed with a strong hooked *dertrum*, or nail ; edges of both mandibles toothed or serrated, with the serratures generally pointing backwards. Chin-angle very long, reaching nearly to the nail of the under mandible. Nostrils near the middle of the bill lateral, pervious, oblong, longitudinally cleft in the membrane. Tongue long, pointed, ciliated.

Wings of mean length, acute ; the first and second quills nearly equal in length. Tail graduated or rounded ; rather long.

Legs placed far backward, short. Feet large ; of four toes, three before and one behind ; the front toes webbed. Outer and middle toes of equal length, and longer than the

tarsus. Hind toe reaching to the ground, and furnished with a large lobated membrane.

General form rather long, much depressed or flattened. Head more or less crested.

The members of this genus are distinguished from the preceding subfamilies of the *Anatidae*, by the narrowness of the bill, as compared with its length, and by the structure of its laminated edges, which assume the form of distinct conical teeth, generally pointing backwards, instead of the broad transverse plates or laminae of the other groups. The food of the typical species principally consists of fish, for securing which this modification of bill is admirably adapted. The members of this genus swim well, but, from the weight and flattened form of their bodies, appear deeply immersed in the water; the head, neck, and back being only visible. They are also excellent divers, moving or rather flying beneath the surface with great rapidity, and to a great distance at a time, and by these submarine flights they capture their finny prey. Their flight is strong and swift, and they have great endurance on wing; but, from the shortness and backward position of the legs, are awkward upon land. They are natives of the colder climates, and are found, during the summer (or breeding season), in very high latitudes. The males, after the sexual connexion, are subject to a partial change in the colours of their plumage, similar to that which takes place in many species of the subfamily *Anatina*. The labyrinthic part of the trachea (only in the male bird) is very large and complicated, and the tube itself varies in form and in the number of its enlargements, according to the species. The young males bear a strong resemblance to the females, till after the second moult.

GOOSANDER.

MERGUS MERGANSER, Linn.

PLATE LVII.

Mergus Merganser, Linn. Syst. 1. 203. 2.—*Gmel. Syst.* 1. 544.—*Raii Syn.* 134. A. 1.—*Will.* 253. t. 64.—*Briss. Orn.* 6. 231. t. 32.—*Lath. Ind. Orn.* 2. 828. sp. 1.—*Wils. Amer. Ornith.* 8. 70. pl. 68. f. 1. and 2.—*Flem. Br. Anim.* 1. 128. sp. 200.—*Faun. Amer. Boreal.* 2. 460. No. 220.

Merganser Raii, Steph. Shaw's Zool. 12. 161. pl. 53.

Le Harle, Buff. Ois. 8. 267. sp. 23.—*Id. Pl. Enl.* 951.

Grand Harle, Temm. Man. d'Ornith. 2. 331.

Taucher-gans, Bechst. Naturg. Deut. 4. 781.—*Meyer. Tasschenb.* 2. 565.

Goosander, or Merganser, Penn. Br. Zool. 2. 556. No. 260.—*Arct. Zool.*

2. No. 465.—*Will. (Ang.)* 335. t. 64.—*Lath. Syn.* 6. 413. 1.—*Id. Sup.* 2.

336.—*Lewin's Birds*, 6. pl. 2. 31.—*Mont. Orn. Dict.* 1. and Sup.—*Bewick's*

Br. Birds, ed. 1826. p. t. 250.—*Wils. Amer. Orn.* 8. 70. pl. 68. f. 1. and

2.—*Linn's Faun. Orcad.* p. 131.—*Rennie's Mont. Orn. Dict.* 217.

Mergus castor, Linn. Syst. 1. 209. 4.—*Gmel. Syst.* 1. 545. B.—*Lath. Ind. Orn.* 2. 829. sp. 2.

Mergus rubricapillus, Gmel. Syst. 1. 545.

Mergus serratus longiroster, Raii Syn. 134. A. 2.—*Will.* 253. t. 64.

Merganser cinereus, Briss. Orn. 6. 254. 7. t. 25.

Le Harle Femelle, Buff. Ois. 8. 236.—*Id. Pl. Enl.* 953.

Dundiver, or Sparling Fowl, 2. 557. No. 260. pl. 92. f. 2.—*Arct. Zool.*

2. 465.—*Albin.* 1. t. 87.—*Lath. Syn.* 6. 240. 221. 4.—*Id. Sup.* 270.—

Lewin's Br. Birds, pl. 232.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br.*

Birds, ed. 1826, p. t. 253.

Female and
Young Male

PROVINCIAL—Saw-Bill, Harle, Earl-Duck, Jack-Saw.

THIS large and handsome species is one of our rarer *English* visitants, and seldom makes its appearance in the more southern districts of the country, except in winters attended by long continued frost; but in the northern parts of Scotland, and in the Orkneys and other Scottish islands, it is a permanent resident; finding subsistence throughout the year either in the fresh-water lakes of the interior, or (when these are frozen) in the deep indentations of the coast, formed by the saline lochs, so numerous in that part of the kingdom. It is widely distributed throughout the arctic regions of both the ancient and new worlds. In Europe, during its equatorial migration, it visits France, Holland, Germany,

and even more southern countries ; and WILSON mentions it as a well known winter visitant upon the coasts, lakes, and rivers of the United States. During the summer the great body of these birds retires to high latitudes, for the purpose of reproduction ; and at that time they are found in Iceland, Greenland, and other northern parts of Europe. In Asia, they visit Siberia, Kamtschatka, &c., and in America, during the above period, they are distributed through the fur coun-
Nest, &c. tries of that vast continent.—The nest is constructed (near to the edge of the water) of a mass of grass, roots, and other materials, mixed and lined with down. It is placed sometimes among stones or other *debris*, and sometimes in the long grass, or under the cover of bushes, and (when the locality affords them) in the stumps or hollows of decayed trees. The eggs are from twelve to fourteen in number, of a cream-yellow colour ; and their form is a long oval, both ends being equally obtuse.

The Goosander, except when on wing, is almost always seen upon the water, being unable to make any great progress on land, in consequence of the backward position of the legs, and the slight degree of freedom that the tibia possess from their situation within the integuments of the abdomen. Its activity, however, in the former element, makes ample amends for this deficiency. In swimming, the body, from its broad and flattened shape, is deeply sunk in the water, having the head, neck, and back only visible. It is an excellent diver, with the power of remaining for a long time submerged, and making its way with great rapidity beneath the surface.—In this manner its food is obtained, consisting
Food. entirely of fish ; and which, when once seized, are securely held in its serrated bill. It rises with difficulty, or at least with much apparent exertion, from the surface of the water, but when once fairly on wing, its flight is not only swift, but can be sustained for a considerable time. By earlier writers, the females and young males (which resemble that sex for upwards of a year) were considered and described as

a distinct species, under the title of *Mergus castor*; even our acute countryman MONTAGU seems to have adhered to this opinion, and was unwilling to admit the conclusive deductions of Mr SIMMONDS, drawn from minute anatomical examination, which clearly proved their identity. This is now, however, well established, and supported by the concurrent authority of TEMMINCK, WILSON, FLEMING, &c.; in addition to which I may be allowed to add, that I have dissected several specimens in the plumage of *M. castor*, which proved to be males, possessing, in the form of the labyrinth and the *two* tracheal enlargements, the precise organization of the Goosander. I have also obtained individuals in the intermediate state of plumage, or when they had begun to acquire the characteristic markings of the adult bird. The trachea, which measures nearly a foot in length, becomes greatly enlarged about two inches below the larynx; and this dilatation (which is composed of alternating rings, and much flattened) is upwards of two inches and a half long. Below this, the tube is very much contracted, and nearly circular for more than an inch, when it again becomes enlarged, but not to the former extent; after which it gradually contracts, till its entrance into the lower larynx or labyrinth. This part consists of an *orca*, or enlargement of the bony rings, and a large ear-shaped *tympanum*, exhibiting three flattened surfaces, each covered with a fine parchment-like membrane. The bronchi are distant from each other, the one proceeding from the outer and lower part of the orca, the other from the lower and central portion of the tympanum. The Goosander is a bird of wild disposition, and very wary habits, and from its dexterity and quickness in diving very difficult to be shot. The flesh, from the fishy character of its food, is ill-flavoured and oily.

PLATE 57. represents the adult Male and the Female of the natural size.

General
description.

Male.

Bill, from the angle of the forehead, two inches and three-eighths long; black above and below, with the sides vermilion-red; the edges armed with sharp conical teeth, pointing backwards, and the palate with two acute serrated ridges. Legs and feet rich orpiment-orange, changing after death into red. Irides arterial blood-red. Head and upper part of neck glossy blackish-green; the feathers on the crown and nape being long, silky, and tumid. Lower part of the neck, breast, under parts, lesser and medial wing-coverts (except those nearest to the shoulder), tips of the greater coverts, secondary quills, and outer scapulars, rich buff-orange. Mantle, inner scapulars, humeral wing-coverts, bastard wing, greater quills, and narrow margins of the long tertials, velvet black. Back and tail deep grey, inclining upon the latter to clove-brown. Behind the thighs, and on the sides of the rump, white, undulated with fine zigzag curved lines of blackish-brown.

Female.

Head and upper part of the neck pale reddish-brown; inclining upon the crown to liver-brown; the crest long and pendant, formed of slender feathers. Chin and throat white. Lower part of the neck, breast, and sides greyish-white, undulated with pale clove-brown. Belly and abdomen white, with a tinge of buff. Upper parts deep bluish-grey, tinged with clove-brown. Tips of the greater coverts, and anterior half of the secondaries, white, forming a speculum of that colour upon the wings. Lesser coverts bluish-grey. Bill black above and below, with the sides dingy vermilion-red. Legs and feet orange.

Young.

The young males, until after the second moult, are similar to the old female bird, and can only be distinguished by dissection. In assuming the adult garb, they begin by shewing the blackish-green feathers upon the head and upper part of the neck.

[RED-BREASTED MERGANSER,

MERGUS SERRATOR, Linn.

PLATE LVIII. AND LVIII*.

Mergus serrator, Linn. Syst. 1. 208. 3.—Gmel. Syst. 1. 545. B.—Lath. Ind. Orn. 2. 829. sp. 4.—Flem. Br. Anim. 1. 129. sp. 201.—Faun. Amer. Boreal. 2. 462. No. 221.—Wils. Amer. Orn. 8. 84. pl. 69. f. 2. male.

Mergus serrator, Shaw's Zool. 12. 165.

Mergus serrator leucomelas, Gmel. Syst. 1. 546. D.

Mergus cirrhatus fuscus, Raii Syn. 135. A.—Will. 255. t. 64.

Mergus cristatus, Briss. Orn. 6. 237. 2. t. 23.

Le Harle huppé, Buff. Ois. 8. 273.—Id. Pl. Enl. 207.—Temm. Man. d'Ornith. 2. 384.—Cuv. Reg. Anim. 1. 540.—Lesson. Man d'Ornith. 2. 420.

Harle à Manteau noir, Buff. Ois. 8. 277.

Langschnabiger Säger, Bechst. Naturg. Deut. 4. 795.—Meyer, Tasschenb. Deut. 2. 568.

Red-breasted Merganser, Penn. Br. Zool. 2. 558. pl. 93. No. 261.—Arct. Zool. 2. 466.—Edw. Glean. pl. 95.—Albin's Birds, 2. pl. 101.—Lewin's Br. Birds, 6. 233.—Lath. Syn. 6. 423.—Id. Sup. 2. 337.—Id. in Trans. Linn. Soc. 4. 121. pl. 16. f. 1. 2.—(Trachea.) Mont. Ornith. Dict. and Sup.—Berwick's Br. Birds, ed. 1826. 2. p. t. 257.

Mergus serratus, Gmel. Syst. 1. 546. sp. 3. var. A.

Mergus niger, Gmel. Syst. 546. B.

Mergus niger, Briss. Orn. 6. 251. 5.

} Female, and
Young Males.

PROVINCIAL—Earl-Duck, Harle.

UPON the Northumbrian and other coasts on the north of England, this species is a regular winter visitant, but always more abundantly in severe than in mild seasons. It haunts the bays and inlets where small streams discharge themselves, as well as the estuaries of rivers, but seldom advances far beyond the influence of the tide. The greater part of those that visit us are females, and young males in the immature plumage; in which state, except as to size, they strongly resemble the former. In the Highlands and Isles of Scotland these birds are found at all seasons of the year, making the fresh-water lakes of the interior their residence during the summer, and in winter, should these become frozen, resorting to the salt-water inlets. They breed upon the margins of the lakes, or, in preference, upon the islets with which many of them are diversified.

Upon Loch Awe, in the Western Highlands, they are common, and their nests have been repeatedly found by Sir WILLIAM JARDINE and myself upon the several islands that beautify its western extremity.—The nest is always situated a few yards beyond the highest water-line, frequently beside a large stone covered with brambles, and coarse herbage, or under the shelter of some thick bush. It is composed of dried grass, small roots, &c., intermixed with feathers and a quantity of the down of the bird, which (as in the case of the Eider, and some other ducks), appears to be added to as incubation advances. The eggs are from seven to eleven in number, of a colour intermediate between cream-yellow and wood-brown, and in size and shape like those of the Common Duck. The bird sits remarkably close, and will sometimes allow itself to be almost trodden upon, before it will quit the nest. As soon as incubation commences, the old males desert the females (a habit, indeed, which may be observed in many species of the *Anatidæ*), and assemble in companies of three or four together. About this time, also, their plumage undergoes a considerable change, losing the deep colouring of the head and back, which parts become of a dingy cinereous grey, that is retained till the general (or autumnal) moult commences. This Merganser is an excellent diver, remaining for a long time submerged, during which it makes rapid progress. In this way it frequently escapes when wounded, merely raising its bill above water to take breath, and again dipping down, without causing any perceptible disturbance of the surface.—It feeds principally upon fish; and in two individuals that I dissected, and which were killed at the mouth of a small rivulet, flowing into Budle Bay, on the Northumbrian shore, I found the œsophagus and stomach gorged with a quantity of small eels, not exceeding two or three inches in length, and, as far as I could judge, of the common species. This bird is widely distributed throughout the northern parts of Europe, Northern Asia, and North America, retiring to high latitudes

during the summer, and in winter regulating its advances towards the equator by the state of the season. The trachea of the male bird differs from that of the Goosander, in having but one enlargement, which commences about two inches and a half below the glottis, and which, when extended, is upwards of three inches long, and is more than four times the diameter of the parts immediately above and below. About three inches above the lower larynx the tube becomes much flattened, and is formed of eighteen or twenty rings (broad and large on the back, but fine and narrow on the front view), the spaces between them being covered by a fine membrane; and this part much resembles the corresponding portion of the trachea of the Long-tailed Hareld (*Harelda glacialis*). The tympanum is very large, and of an irregular heart-shape, being formed of two large bony protuberances, which, taken together, measure two inches in length by one inch and a half in width, and both of which are furnished with a lateral drum-like membrane.

PLATE 58. represents the Adult Male of the natural size.

General
description.

Bill, from the nape of the forehead to the tip, two inches and a quarter long. The sides of the upper, and the whole of the under mandible orange; the culmen black; teeth numerous, conical, acute; those of the upper mandible largest, and pointing backwards. Legs and feet orange, inclining to tile-red. Irides arterial blood-red. Head, crest, and upper part of the neck glossy greenish-black; crest composed of long, narrow, loose-webbed feathers, pointing backwards. List on the back part of the neck, mantle, part of the shoulders, interior scapulars, basal half of the greater wing-coverts, secondary quills, bastard wing, greater quills, and narrow border of the long tertials, glossy black. Collar, middle part of the feathers forming the shoulder tuft, exterior scapulars, middle wing-coverts, anterior half of the greater coverts, and secondaries, long tertials, belly, and

Male.

abdomen, white. Upper part of the breast, and sides of the lower part of the neck pale reddish-brown, each side-edge of the feathers having a black streak. Sides, flanks, and behind the thighs, white, undulated with distinct zigzag bars of black. Lower part of the back and the rump deep clove-brown, undulated with white. Tail composed of sixteen feathers, deep broccoli-brown. Lesser wing-coverts, upon the ridge, and near to the shoulders, deep clove-brown.

Female. **PLATE 58*.** The Female, which bears a strong resemblance to that of the preceding species, but of inferior size, and having the speculum, or white part upon the wing, divided by a black bar, formed by a part of the basal half of the secondaries being exposed to view.

Crown of the head, and occipital crest liver-brown. Sides of the head and neck pale reddish-brown. Chin and throat white. Upper plumage (in winter) deep broccoli-brown; the feathers upon the mantle and sides of the breast being margined with greyish-white. Under plumage white. Flanks broccoli-brown, margined paler. Bill and legs dingy orange. Irides red.

Young. The young males resemble the females till after the second moult, when they begin to show about the head and back the characters of the adult bird.

HOODED MERGANSER.

Mergus cucullatus, Linn.

PLATE LVIII.**

- Mergus cucullatus*, Linn. Syst. 1. 207. 1.—Gmel. Syst. 1. 544.—Lath. Ind. Orn. 2. 830. sp. 5.—Wils. Amer. Orn. 8. 82. pl. 69. f. 1.—Faun. Amer. Boreal. 2. 463. No. 222.
- Merganser Virginianus cristatus, Briss. Orn. 6. 258. 8.
- Merganser cucullatus, Steph. Shaw's Zool. 12. 168.
- Le Harle couronné, Buff. Ois. 8. 280.—Id. Pl. Enl. 935. 36.
- Round-crested Duck, Edwards's Glean. pl. 360.
- Wind Bird, Will. (Angl.) 389.
- Hooded Merganser, Penn. Arc. Zool. 2. No. 467.—Lath. Syn. 6. 426. 101.
- Wils. Amer. Orn. 8. 82. pl. 69. f. 1. male.—Scllgy in Trans. Nat. Hist. Soc. Northumberland, Durham and Newcastle, 1. 291.
- Mergus fuscus*, Lath. Ind. Orn. 2. 832. sp. 9. ? } Young.
- Brown Merganser, Arct. Zool. 2. Sup. p. 74. ? }

I AM enabled to add this beautiful species to the list of the British Fauna as a rare visitant, upon the authority of a specimen that was killed at Yarmouth, in Norfolk, in the winter of 1829; the skin of which, through the kind attention of an esteemed correspondent, is now in my possession. It appears to be a young female, as the crest is not so fully developed, or the white upon the secondary quills so large, as in the skin of an adult bird of that sex, with which it has been compared. Since this capture, I have been informed that more instances have occurred, all apparently females, or young males in the garb of that sex; the adult male, in his elegant piebald plumage, never having yet been seen in Europe. This bird is a native of North America, and during the summer is found in the higher latitudes, or fur-countries of that continent, where it breeds upon the margins of the lakes and rivers. The nest is formed of grass and other herbage, intermixed and lined with down and feathers. Its eggs are stated to be eight or ten, and white; it is probable, however, that, when fresh laid, they will be like those of all its congeners, tinged with pale brown or buff. During the

Rare
visitant.

Nest, &c.

winter it migrates southwards, and is then dispersed along the coasts, and upon the lakes and rivers of the United States, where WILSON describes it as of frequent occurrence, and as possessing similar habits to those of the Red-breasted Merganser. In this species the bill is short, and intermediate in form between that of the Smew and of the two foregoing birds. The teeth are also different, for, instead of being conical and sharp-pointed, they are broad and even at the top, with sharp edges, and are obliquely set in the mandibles. The palate, also, in the place of acute longitudinal ridges, has several transverse furrows. With its tracheal anatomy we have but little acquaintance, as WILSON merely states that it has a small labyrinth; and the part is not adverted to by Dr RICHARDSON, or Mr SWAINSON.

PLATE 58** represents the above-mentioned specimen, of which the description is as follows.

General
description.
Female.

Length nearly eighteen inches. Bill, from the forehead to the tip, about one inch and a half long; rather slender, and not so thick at the base as in the Smew; the serratures broad, with sharp edges. The colour of the bill appears to have been orange at the base, and darker towards the tip. Chin greyish-white, speckled with pale broccoli-brown. Crown of the head inclining to liver-brown; the occipital crest (which is large and semicircular) passing into pale reddish-brown. Face, cheeks, and neck, pale broccoli-brown, or mouse colour. Breast and sides of the lower part of neck broccoli-brown, deeply margined with pearl-grey. Upper parts of the body brownish-black; the feathers upon the mantle and scapulars being margined with obscure greyish-brown. Outer edges of the exterior webs of the secondaries white, forming a small speculum in the middle of the wing. Under plumage white. The sides and flanks broccoli-brown, with paler margins. Tail composed of fourteen feathers, deep clove-brown, and reaching near-

ly three inches beyond the closed wings. Legs and feet brown, tinged with red. Tarsus one inch in length.

The following is a description of the adult male, as given by Dr RICHARDSON, in the *Fauna Americ. Boreäl.*, and which agrees with that of WILSON in every essential particular.

Top of the head, dorsal plumage, upper small wing-coverts, Male
quills and tail, blackish-brown. Sides of the head, neck, bars upon the shoulders, scapulars, tertiaries, and bases of the secondaries and greater coverts, glossy greenish-black. Broad bar behind the eye, through the middle of the crest, alternate bars upon the shoulder, tips of the greater coverts, exterior borders of the secondaries, central stripes on the tertiaries, and under plumage, white. Flanks finely undulated with yellowish-brown and black. The crest, according to WILSON, is composed of two separate rows of feathers radiating from each side of the head, and which can be easily divided by the hand. Irides golden or king's-yellow.

SMEW, or WHITE NUN.

MERGUS ALBELLUS, Linn.

PLATE LIX.

Mergus albellus, Linn. Syst. 1. 209. 5.—*Gmel.* Syst. 1. 547.—*Briss.* Orn. 6. 245. 3. t. 24. f. 1.—*Lath.* Ind. Orn. 2. 631. sp. 6.—*Shaw's Zool.* 12. 157. pl. 52.—*Wils.* Amer. Orn. 8. 136. pl. 71. f. 4.—*Flem.* Br. Anim. 1. 129. sp. 202.

Mergus major cirrhatus, Raii Syn. 135. A.—*Will.* 254. t. 64.

Le Petit Harle huppé, ou la Piette, Buff. Ois. 8. 275.—Id. Pl. Enl. 449.—*Temm.* Man. d'Orn. 2. 887.

Weisser-säger, *Bechst.* Naturg. Deut. 4. 804.—*Meyer*, Tasschenb. 2. 571.

Smew, or White Nun, *Penn.* Br. Zool. 2. 559. No. 262.—*Lewin's Br. Birds*, 6. pl. 234.—*Lath.* Syn. 6. 428.—Id. Sup. 271.—Id. Sup. 2. 338.—Id. in *Trans. Linn. Soc.* 4. 234. pl. 16. f. 3, and 4. (trachea).—*Mont.* Orn. Dict. and Sup.—*Pult.* Cat. Dorset. 19.—*Bewick's Br. Birds*, ed. 1826, p. t. 260.—*Flem.* Br. Anim. 1. 129. sp. 202, &c.

- Female and Young Males. { *Mergus minutus*, *Linn. Syst.* 1. 209. 6.—*Lath. Ind. Orn.* 2.^d 832. sp. 7.
Mergus Asiaticus, *Gmel. Syst.* 1. 548. 6. B.
Merganser stellatus, *Briss. Orn.* 6. 252. 6.
Merganser cristatus minor, *Briss. Orn.* 6. 243. 3.
La Piette Femelle, *Buff. Pl. Enl.* 450.
Le Harle étoilé, *Buff. Ois.* 8. 278.
Weasel Coot, *Albon's Birds*, 1. t. 88.
Red-headed Smew, *Br. Zool.* 2. 263.—*Bewick's Br. Birds*, 2. 666.
Lough Diver, *Penn. Br. Zool.* 2. 560.—*Arct. Zool.* 2. 540.—*Bewick's Br. Birds*, ed. 1826, p. 262
Minute Merganser, *Lath. Syn.* 6. 429. 6.—*Lewin's Br. Birds*, 6. pl. 235.
—*Mont. Ornith. Dict. and Sup.*

PROVINCIAL—Vare Wigeon, Magpie Diver.

Periodical
visitant.

IN severe winters the Smew is not uncommon in the eastern and southern parts of England, where it is found on the coast, as well as upon the rivers farther inland, and pools of fresh-water in the fenny districts. In the northern counties it is always of rare occurrence, arising in all probability from the line of its migration from the northern parts of Europe and Asia being in parallels more to the eastward, as it is abundant in Germany, Holland, France, &c. The majority of such as visit our shores are females, or immature males in the similar plumage, and known by the name of the *Lough Diver*, or Red-headed Smew; the male, in his mature garb, being comparatively seldom met with. In New England, and some other districts of the United States, according to WILSON, it is a common species during its winter migration; and is then found, as with us, both upon the sea-coast, and the lakes and rivers of the interior. He does not, however, mention the parts of that continent to which it retires during the summer, nor did the bird come under the notice of Dr RICHARDSON in the course of his northern expeditions. In Europe it retires to high latitudes for the purpose of reproduction; Iceland and Greenland being among the number; and in Asia it is found in Siberia, Kamtschatka, &c.—It breeds upon the banks of lakes and rivers, and its eggs are stated to be of a yellowish-white, from eight to twelve in number. Like the others of its genus, it is an admirable diver, and has the power of remaining long beneath the sur-

Nest, &c.

face without rising to breathe.—It feeds on fish (which it pursues under water), as also on small crustaceæ, and insects. It is a very shy and vigilant bird, and takes wing with great readiness when apprehensive of danger; flying rapidly, and supporting it for a long time. The trachea of the male is narrow immediately below the glottis, but becomes gradually enlarged as it approaches the middle of its course, from whence to the lower larynx it is of nearly an equal diameter, formed of bony rings, with very little intervening cartilage. The labyrinth is not so large in proportion to the size of the bird as that of the Goosander, or of the Red-breasted Merganser, and differs also in form; its *greatest* diameter being the horizontal one, instead of the perpendicular. The exterior face of the tympanum has a large rounded orifice, covered by a thin membrane, as in the Goosander. The females and young males of this bird were long considered to be a distinct species; the discovery, however, by Dr LATHAM and others, of the males of this supposed species possessing the precise tracheal organization of the adult male Smew, has enabled later writers to correct the error. Mr STEPHENS has separated the Smew from the other Mergansers, on account of the comparative shortness of its bill, and the modification of the teeth or serratures, which do not point so distinctly backward, and are closer set than in the larger species. At the same time, he has retained the Hooded Merganser among them, although its bill (taking the size of the respective birds into consideration) is nearly as short as that of the Smew, and the teeth, in their form and arrangement, differ even more from those of the Goosander, &c. than those of the latter bird. This arrangement has not, however, been adopted by any other ornithologist.

Food.

PLATE 59. represents the Male and Female, of the natural size.

Bill and legs deep bluish-grey. On each side of the face, and surrounding the eye, is a large patch of greenish-

General description.

- Male.** black ; the occiput, and part of the occipital crest, being of the same colour. Head, neck, breast, and under plumage, pure white. The back, and the two crescents, which advancing, partly encircle the lower neck and breast, black. Shoulders, and part of the lesser wing-coverts, white. Scapulars white, and greyish-white, margined on the outer webs with black. Secondaries and middle wing-coverts deep glossy black, with a narrow fringe of white. Sides and flanks with transverse zigzag lines of black. Upper tail-coverts bluish-grey. Tail the same, and graduated. Quills brownish-black.
- Female.** Much less than the male bird. Head, crested occiput, and hinder part of the neck, reddish-brown. Throat and sides of the upper part of the neck, white. Lower part of neck, breast, sides and flanks, ash-grey. Back, scapulars, upper tail-coverts, and tail, deep grey, inclining to clove-brown. Middle part of the lesser wing-coverts greyish-white. The rest of the wings (with the exception of the secondaries and greater coverts, which are bordered with white) deep greyish-black. Legs and bill deep grey.
- Young.** The young of both sexes are similar to the adult female. At the second moult the males indicate, by a few black feathers, the commencement of the patch on the side of the face ; the back also becomes varied with black ; and appearances of the two crescents are discernible.

FAMILY II.—COLYMBIDÆ.

FROM the natatorial groups of the *Anatidæ*, distinguished, as we have seen, from the rest of that family by the flattened form of the body, the backward position of the legs, the shortened and concave wings, and by habits more decidedly accordant with a life on the ocean, we now pass on to the family of the *Colymbidæ*. Here we shall find the above characteristics displayed in a still greater degree, and which, as contributing so essentially to the perfection of this mode of existence, render this family one of the typical divisions of the Order. In the birds which compose it, the legs are placed at the extremity of the body, with which they form an acute angle, acting, as it were, as propelling oars from the stern. The tarsi and feet alone are exposed and free; the tibia and *femur* being inclosed within the integuments of the abdomen. The tarsus is remarkably thin, or laterally compressed; and the feet (although large, and furnished with membranes) have the toes so articulated, as to fold into a very small compass when drawn towards the body after making the necessary stroke, thus offering the least possible resistance in the water. The lobated hind toe possessed by the more aquatic ducks is still retained in this family, and, in some members of it, is joined to the inner toe by a small uniting membrane, shewing thus a connexion also with the *Pelecanidæ*. The contour of the body is oval, broad, and depressed, narrowing towards the neck, which is long and tapering. The wings are short and concave, as well, or perhaps even better, adapted for aiding progression beneath the surface of the water, as through the air. The bill is strait and compressed, ending in a sharp point, and destitute of the cuticular membrane that envelopes it in the *Anatidæ*. From the backward position of the legs the individuals of

this family are unable to walk upon land, and they rarely of their own accord come to shore, unless for the purpose of reproduction; and this is almost always effected on the immediate margin of the water, or amidst the floating herbage that covers many of the situations they inhabit. They swim and dive with equal ease, and can remain for a long time submerg'd. The genera at present assigned to this family are two, viz. the Grebe (*Podiceps*), and Diver (*Colymbus*).

GENUS PODICEPS, LATHAM. GREBE.

GENERIC CHARACTERS.

BILL as long as, or longer than, the head, strong, slightly compressed, strait, entire, hard, and pointed; the upper mandible inclining slightly towards the tip; the lower one turning upwards from the *gonys*, or angle; tomia of both mandibles bending inwards. Nostrils lateral, basal, linear, pierced in the middle of the nasal fosse. *Lorum*, or space between the corner of the bill and the eye, naked.

Wings short, and concave. No tail.

Legs placed at the posterior extremity of the body; the tibiæ enclosed within the integuments of the abdomen. Tarsi much compressed; feet of four toes, three before, and one behind; the front toes much flattened, and each furnished with a broad membrane; which membranes become united near the base; outer toe longer than the middle one; hind toe articulated on the tarsus, and provided with a lobated membrane. Nails large, flat, and broad. Plumage soft, downy, thick; with a silky lustre.

In former systems, when the natural affinities which connect the various Orders, Families, &c. together were neglected, or at least but imperfectly investigated, the *Grebes*, from a fancied resemblance (for such it may properly be termed)

in the form of their feet, were arranged with the *Coots* and *Phalaropes* (birds also belonging to different families), and formed a truly artificial division; under the title of *Pinnatipedes*. Instead of the free tibia, and the gressorial foot, calculated for progress upon land, and at the same time furnished with distinct membranes to assist in swimming, as we see exemplified in the Coot, the feet of the Grebes are formed upon a very different plan, and expressly adapted for the watery element, as the position of the tarsus and the articulation of the toes are such as to give no stability to the body upon land, and progression there is effectually prevented by the restrained action of the tibia. Except in the toes being separated towards their extremities, and each furnished with a distinct web, the form of the legs and feet approaches closely to that seen in the genus *Colymbus*; the tarsus suffering an equal lateral compression, and the outer toe exceeding the other two in length. The Grebes are remarkably active in the water, which they never quit, as they even breed there; making their nests amidst the reeds and other strong aquatic herbage that is found in the localities they inhabit. From their shortness of wing, and want of tail, they rise with difficulty, and scarcely ever have recourse to flight, except for change of abode, or migration; as, when pursued, they always endeavour to escape by diving. They feed on fish, aquatic insects, and vegetables. The genus has a wide geographical distribution, some species being found in every quarter of the globe.

RED-NECKED GREBE.

PODICEPS RUBRICOLLIS, Lath.

PLATE LXXII.

- Podiceps rubricollis*, *Lath.* Ind. Orn. 2. 783. sp. 6.—*Steph.* Shaw's Zool. 13. 8.—*Flem.* Br. Anim. 1. 131. sp. 207.—*Faun.* Amer. Boreal. 2. 411. No. 196.
Colymbus rubricollis, *Gmel.* Syst. 1. 592
Colymbus subcristatus, *Gmel.* Syst. 1. 590.
 Le Grèbe à Joues grises, *Buff.* Ois. 3. 211.—*Id.* Pl. Enl. 931.
 Grèbe Jou-gris, *Temm.* Man. d'Ornith. 2. 729.
 Graukehliger Steissfuss, *Meyer*, Tasschenb. Deut. 2. 429.
 Red-necked Grebe, *Penn.* Arct. Zool. 2. 499. C.—*Lath.* Syn. 5. 288.—*Id.* Sup. 260. pl. 118.—*Lewin's* Br. Birds, 5. pl. 199.—*Mont.* Orn. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826, 2. p. t. 161.—*Shaw's* Zool. 13. 8.—*Rennie's* Mont. Orn. p. 408.
Colymbus Parotis, *Gmel.* Syst. 1. 592.—*Young.*

MOST of our authors speak of the Red-necked Grebe as a very rare British species, but more, I am inclined to think, from a want of knowledge of its habits during its sojourn with us, than from the real scarcity of the bird, as in Northumberland I have met with it at least as frequently as any of the other species. It differs, however, from them in being much oftener seen in the salt than in fresh water; and from the facility with which it can escape in the open sea, and the little attention paid to so nimble a diver by the wildfowl shooter, it is seldom procured, unless expressly sought for.

Periodical
visitant.

The several specimens I have obtained were all killed during the winter and early spring months, therefore I conceive it to be only a visitant to us during that period; and this opinion seems strengthened by the silence of all our own writers as to its breeding in the British Islands. In size it is intermediate between the Horned and the Crested Grebes, of which latter species PENNANT supposed it might be a variety. A comparison, however, between these two must at once convince any one of that not being the case, the distinctive characters of the red-necked species being decidedly promi-

ment. Like the others of its genus, it is a very expert diver, remaining long under water; and, when pursued, merely raises its bill above the surface for respiration.—It feeds upon small fish, insects, &c.; and the stomach, upon dissection, is always found to contain a mass, greater or less, of its own feathers,—a peculiarity which has been observed in all the species, but whether swallowed accidentally in dressing the plumage, or purposely to aid the digestive process, has not yet been satisfactorily ascertained. I should rather favour the latter supposition, as the feathers which have been for some time in the stomach are much comminuted, and in a fit state for passing into the intestines; a fact also observed by MONTAGU. This species is widely diffused, being abundant in the eastern parts of Europe, where it is found upon the lakes and larger rivers, but it becomes gradually rarer to the westward. It is also an inhabitant of the Arctic Regions of America, and was met with upon the Great Slave Lake during FRANKLIN'S Expedition in 1822.—Its nest is built amidst the aquatic herbage, or reeds, composed of similar decayed materials, and rises and falls with the water. The eggs are stated by TEMMINCK to be three or four, of a greenish-white, clouded with deep brown.

Food.

Nest, &c.

PLATE 72. Represents this bird of the natural size, from a specimen killed in 1826 at the Fern Islands, on the Northumbrian coast.

Bill one inch and a half in length from the forehead to the tip, black, with the base of the under mandible, and the lower part of the upper one, lemon-yellow. Crown of the head, and occipital tufts, deep glossy greyish-black. Cheeks, chin, and throat, grey, palest towards the junction with the feathers of the head. Back part of the neck and upper plumage deep blackish-grey, with the edges of the feathers paler. Throat and breast orange-coloured brown, the latter being clouded with greyish-white. Belly and abdomen greyish-white, with a silky

General description.

lustre, and faintly spotted with darker grey. Sides and flanks grey, the feathers open in texture. Five or six of the secondary quills white, forming a patch or speculum. Quills hair-brown. Legs and toes greyish-black, with a greenish tinge.

CRESTED GREBE.

PODICEPS CRISTATUS, Lath.

PLATE LXXIII. FIGS. 1. AND 2.

- Podiceps cristatus, Lath.* Ind. Orn. 2. 780. 1.—*Steph.* Shaw's Zool. 13. 3.—*Flem.* Br. Anim. 1. 131. sp. 206.—Faun. Amer. Boreal. 2. 410. No. 174.
Colymbus cristatus, Linn. Syst. 1. 222. 7.—*Gmel.* Syst. 1. 589.
Colymbus major cristatus et cornutus, Raii Syn. 124. A. 2.—*Will.* 257. t. 61.
Colymbus cornutus, Briss. Orn. 6. 45. No. 4. t. 5. f. 1.
 Le Grèbe cornu, *Buff.* Ois. 8. 235. t. 19.—*Id.* Pl. Enl. 400.
 Grèbe huppé, *Temm.* Man. d'Orn. 2. 717.—*Cuv.* Reg. Anim. 1. 509.—*Lesson,* Man. d'Ornith. 2. 356.
 Gehaubter Steissfuss, *Bechst.* Naturg. Deut. 4. 533.—*Meyer,* Tasschenb. Deut. 2. 426.
 Greater Crested and Horned Douker, *Albin's* Birds, 1. t. 81.—*Will.* (Angl.) 340. t. 61.
 Crested Grebe, *Br.* Zool. 2. 497. No. 223.—*Arct.* Zool. 2. 498. A.—*Lath.* Syn. 5. 281. 1.—*Lewin's* Br. Birds, 5. pl. 106.—*Mont.* Ornith. Dict. 1.—*Bewick's* Br. Birds, ed. 1826, 2. p. t. 153.—*Shaw's* Zool. 13. 3.
Colymbus urinator, Linn. Syst. 1. 223. 9.—*Gmel.* Syst. 1. 593.
Colymbus, Briss. Orn. 6. 34. 1. t. 3. f. 1.
Colymbus cinereus major, Raii Syn. 124. A. 1.
Colymbus major Aldrov. *Raii* Syn. 125. 6.—*Will.* 256.
 Le Grèbe, et le Grèbe huppé, *Buff.* Ois. 8. 233. et 237.—*Id.* Pl. Enl. 944. et 941.
 Greater Loon or Arsefoot, *Will.* (Angl.) 339. 51.—*Edw.* t. 360.
 Tippet Grebe, *Br.* Zool. 2. 496. No. 222. t. 78.—*Lath.* Syn. 5. 283. 2.—*Bewick's* Br. Birds, ed. 1826, 2. p. t. 155.

PROVINCIAL.—Gaunt, Cargoose, Loon.

THE Crested Grebe is one of the largest of the genus, and is an indigenous species, breeding annually on the pools amidst the fens, on the moors of Shropshire and Cheshire, and on a few of the northern Scottish lakes. During the winter, when the waters of the interior of the country are frozen, it retires to the mouths of rivers, and to the line of sea-coast, where it obtains the necessary supply of fish and

small crustaceous animals, which constitute its principal food, as I have repeatedly found upon opening the stomachs of those obtained during the above season. Being upwards of three years in acquiring maturity, or at least the full development of the frieze that surrounds the neck and the occipital tufts, it is much more frequently met with in the young or imperfect state of plumage, than in that of the adult; and out of more than a dozen specimens, which have at different times come under my observation, not one had attained the distinguishing characters of the Crested Grebe. In this immature state it was long supposed to be a distinct species, and as such was known by the name of the *Tippet Grebe*, adopted from the use to which the soft and silky plumage of the lower parts of the body was often applied. When swimming, it moves very rapidly, and, from the flatness of its body, exhibits little more than the head and neck above the water. It dives with remarkable quickness, and is able to avoid the shot from a fowling-piece fired by flint and steel, though it cannot so easily escape from the sudden inflammation of the percussion-lock. Its progress when below the surface, which (as in other diving birds) is performed by an action of the wings somewhat similar to that of flying, is so speedy, as frequently to baffle the pursuit of a well-managed boat, and a stretch of 200 yards is sometimes made, before it rises again to breathe; and this act of respiration, before the bird becomes fatigued by continued pursuit, is commonly effected by merely raising the head above water*. It rarely flies, according to TEMMINCK, even making its migrations by swimming, which, however, cannot always be the case, as it is sometimes found on isolated pieces of water, where it could not arrive unless by the use of its wings; and

* When making a tour through Holland, in company with Sir WILLIAM JARDINE, we one day, in looking after wild fowl upon the lakes in the neighbourhood of Rotterdam, gave chase to a bird of this species, and though in a boat conducted by those accustomed to the business, it cost us upwards of an hour and a half's severe exertion, to get within range, and secure it by a shot through the neck.

these, though short, are not comparatively smaller than in some other species that are known to fly occasionally. Upon the continental parts of Europe it is abundant, particularly in Holland and certain districts of Germany. It is also known in America, and is mentioned in the *Fauna Americæ Borealis*, as having been killed by Dr RICHARDSON upon the *Suskatshewan*.—It breeds in the fresh water, amidst reeds and other rank herbage, and the nest, which is very large and floats on the surface, is composed of a mass of decayed vegetable roots, flags, stems of water-lily, &c. The eggs, three or four in number, are of a greenish-white, in size rather bigger than those of a Teal. The young, when first excluded, are clothed in a parti-coloured down of reddish-brown and greyish-white, and are assiduously attended by the parent, who procures food for them, and, according to PENNANT, has often been observed to feed them with small eels.

PLATE 73. Fig. 1. Represents the adult bird in perfect plumage.

General
description.

Adult bird.

Bill longer than the head, measuring two inches in length from the forehead to the tip; the base dull brick-red, the tip greyish-white. Lores red. Irides crimson-red. Eyestreak, cheeks, and throat, white. Crown of the head, long occipital tufts, and bottom part of the neck-frieze, lustrous greyish-black. The upper part of the neck-frieze pale reddish-brown. Fore part of the neck and under parts white, with a silky or silvery lustre. Hind part of the neck, back, scapulars, middle wing-coverts and flanks, deep clove-brown, with a blackish-green lustre. Wing-coverts next to the shoulders, and the secondary quills, white. Greater quills hair-brown. Legs on the outside grey, or deep lead-colour; on the inside yellowish-white. Hind ridge of the tarsus having a double row of serratures, formed by the projection of the scales that run down each side.

Fig. 2. Represents a bird of the second year.

Young
bird.

Cheeks and throat white. Occipital tufts short, blackish-grey. Sides and flanks dashed with yellowish-brown. During the first year, the occipital tufts are scarcely discernible. As the bird approaches to maturity, the tufts increase in size, and the neck-frieze becomes gradually developed.

HORNED GREBE.

PODICEPS CORNUTUS, Lath.

PLATE LXXIV. FIGS. 1. AND 2.

Podiceps cornutus, Lath. Ind. Orn. 2. 782. sp. 5.—*Shaw's Zool.* 13. 9. pl. 1.—

Flem. Br. Anim. 1. 131. sp. 208.—*Fauna Amer. Borealis.* 2. 411. No. 176.

Colymbus cornutus, Gmel. Syst. 1. 591. sp. 19.

Colymbus cornutus minor, Briss. 6. 50. 5.

Colymbus seu Podiceps minor, Raii Syn. 190. 14.

Le Petit Grébe cornu, *Buff. Ois.* 8. 237.—*Cuv. Reg. Anim.* 1. 508.—*Lesson, Man. d'Ornith.* 2. 356.

Grébe d'Esclavonie, *Buff. Pl. Enl.* 404.

Grébe cornu, ou Esclavon, *Temm. Man. d'Ornith.* 2. 721.

Gehörnter Steissfuss, *Meyer, Tasschenb. Deut.* 2. t. Heft. 18.

Eared or Horned Dohchick, *Edwards' Glean.* t. 145.

Horned Grebe, *Penn. Arct. Zool.* 2. 417.—*Lath. Syn.* 5. 287. 6. t. 91.—*Shaw's Zool.* 13. 9. pl. 1.—*Flem. Br. Anim.* 1. 131. sp. 208.—*Rennie's Mont. Ornith. Dict.* 261.

Sclavonian Grebe, *Mont. Ornith. Dict.* 1. et Sup.

Podiceps obscurus, Lath. Ind. Orn. 2. 782. sp. 4.

Podiceps caspicus, Lath. Ind. Orn. 2. 784. sp. 7.

Colymbus obscurus, Gmel. Syst. 1. 592. sp. 5.

Colymbus caspicus, Gmel. Syst. 1. 593.

Le Petit Grébe, *Buff. Ois.* 8. 232.—*Id. Pl. Enl.* 942.

Black and White Dohchick, *Edwards' Glean.* pl. 96. f. 1.

Dusky Grebe, *Penn. Br. Zool.* 2. 496. No. 225. pl. 78.—*Arct. Zool.* 2. 420.

—*Lath. Syn.* 5. 286.—*Lewin's Br. Birds,* 5. pl. 198.—*Mont. Ornith. Dict.*

—*Bewick's Br. Birds,* ed. 1826, 2. p. t. 159. *

The
Adult.

Young.

IN the adult plumage the Horned Grebe may be reckoned a rare British bird, particularly in the northern counties of

* There is no doubt but that the above synonymes attached to the young of this species are equally liable of application to the *Eared Grebe* in the immature state, which is only to be distinguished by a difference in the form of the bill.

England, where a fresh specimen in this state never fell under my observation. It does, however, breed (though in small numbers) in the fenny districts of the eastern counties, but not, as far as I can ascertain, in Scotland, although Dr FLEMING, in his History of British Animals, has given it as *resident* there, and common. In the young state, or as the *Dusky Grebe* of authors, it is by no means uncommon upon our coasts during the winter months, where it inhabits inlets and the mouths of rivers, and scarcely a season passes without several of these and the young of the next species being brought for my inspection. Its habits are similar to those of the two preceding species, and it is equally active in the water, whether in swimming or diving. It feeds on

Food. shell-fish, crustaceæ, and insects; and in its stomach, on dissection, is found the same sort of concreted mass of feathers that has been before mentioned in the account of the Red-necked Grebe, and which appear to be mostly taken from

Nest, &c. the under parts of the body.—It breeds among the reeds and sedges, constructing a large nest of decayed vegetables, roots, &c., and which is calculated to rise and fall under the influence of the tide. In this it lays four or five eggs of a sullied white, but according to TEMMINCK, spotted with brown. In Europe, it is most plentiful towards the north-east, and is also found in Northern Asia. It is a common species in North America, and is described by Dr RICHARDSON as frequenting every lake with grassy borders throughout the fur countries.

PLATE 74. Fig. 1. Represents the Adult Male, from a beautiful British specimen kindly lent to me for the present purpose by WILLIAM YARRELL, Esq.

General
description.

Adult bird.

Bill shorter than the head, compressed; both mandibles equally sloping to its point, black; the base of the under mandible flesh-coloured, the extreme point greyish-white. Lore lake-red. Irides crimson, with an interior ring of white. Forehead, crown, and large ruff

encircling the neck, glossy greenish-black. Between the bill and eyes is a patch of reddish-brown. Streak behind the eyes, and the occipital tufts (or horns) buff-orange. Hind part of the neck, back, scapulars and wings, blackish-grey, the feathers having paler margins. Secondaries white. Fore part and sides of neck, and sides of the breast, rich reddish-orange. The rest of the under plumage shining silky white. In the legs, the outside of the tarsus is deep grey, and the inside pale yellowish-grey.

Fig. 2. Represents the same bird in the state in which it is commonly known by the name of the *Dusky Grebe*, that is, in its first year. Young bird.

Bill bluish-grey, towards the base flesh-red. Lore red. Crown of the head, nape and back part of the neck, and the whole of the upper plumage, greyish-black, with a tinge of clove-brown, the dorsal feathers having paler margins. Chin, cheeks, and throat, pure white. Fore part and sides of the neck greyish. Sides and flanks grey. The rest of the under plumage silky white. Legs nearly the same as in the adult bird.

EARED GREBE.

PODICEPS AURITUS, Lath.

PLATE LXXIV. FIG. 3.

Podiceps auritus, Lath. Ind. Orn. 2. 781. sp. 3.—*Shaw's Zool.* 13. 12.—*Flem. Br. Anim.* 1. 132. sp. 209.

Colymbus auritus, Linn. Syst. 1. 222. 7.—*Gmel. Syst.* 1. 590.—*Briss. Orn.* 6. 54. 6.

Le Petit Grêbe huppé, Buff. Ois. 8. 235.

Grêbe Oreillard, Temm. Man. d'Ornith. 2. 725.—*Lesson, Man. d'Ornith.* 2. 356.

Gehörter oder Ohren Steissfuss, Bechst. Naturg. Deut. 4. 552.—*Meyer, Tasschenb.* 2. 435.

Eared Dobchick, Edwards' Glean. pl. 96. f. 2.

Eared Grebe, Br. Zool. 2. 500. No. 227. pl. 79. fig. 1.—*Arct. Zool.* 2. 499.

B.—*Lath. Syn.* 5. 285. 4.—*Levin's Br. Birds*, 5. pl. 107.—*Mont. Orn. Dict. and Sup. with fig.*—*Bewick's Br. Birds*, ed. 1826, p. t. 157.

THIS species, so nearly resembling the preceding one in its various states of plumage, is also in its adult and perfect garb a rare British bird, the few that occasionally breed here being confined to the fenny districts and to the grassy pools of the eastern counties of England. In winter I have frequently met with it in the young state on the Northumbrian coast, where it is confounded with the young of the preceding species, and both are indiscriminately called the *Dusky Grebe*. In the disposition and colours of the plumage, scarcely any difference exists between them, but the white of the cheeks and throat of the present bird does not extend quite so far backward towards the occiput, as in the other. The form of the bill, however, is always a sufficient point of distinction between the two, being depressed at the base, and rather turning upwards in *Podiceps auritus*, whilst in *P. cornutus* it is compressed and strait throughout its length, both mandibles being equally and gradually inclined towards the tip, and forming a cone. In the adult plumage the disposition and colours of the auricular tufts and ruff, render the difference between the two birds rather more marked. In point of size it is also rather less than *P. cornutus*, more particularly in individuals arrived at maturity. Its habits, food, and nidification, are so similar to the preceding species, as to render further description unnecessary. It lays four or five eggs, of a tarnished or greenish-white, and nearly equal in size to those of the Land Rail. The Eared Grebe is a common species in the northern parts of Europe, inhabiting the lakes, rivers, and pools, wherever aquatic herbage is abundant.

PLATE 74. Fig. 3. Represents the adult bird, from a specimen in the Museum of Newcastle-upon-Tyne.

General
description.

Bill black, about an inch in length, measured from the forehead; depressed at the base, and having the tip slightly reflected. Lore blackish-red. Irides vermilion-red. Crown of the head, and short ruff round the

neck, shining black. From behind and below the eyes on each side, is a tuft of long slender shining orange-buff feathers which cover the ears, and nearly meet behind. Throat, neck, sides of the breast and upper plumage, deep shining greyish-black. Flanks and sides reddish-brown, mixed with greyish-black. Secondaries white. Under plumage white, with a silky lustre. Tarsi clove-brown, on the inside paler.

The description of the young of the preceding species may serve for that of the present one, the only points of difference having been noted in the above account of the *Eared Grebe*.

LITTLE GREBE.

PODICEPS MINOR, Lath.

PLATE LXXV.

Podiceps minor, *Steph. Shaw's Zool.* 13. 13. pl. 2.—*Flem. Br. Anim.* 1. 132. sp. 210.

Grèbe castagneux, *Tyram. Man. d'Ornith.* 2. 727.

Kleiner Steissfuss, *Bechst. Naturg. Deut.* 4. 565.—*Meyer, Tasschenb. Deut.* 2. 436.

Little Grebe, *Steph. Zool.* 13. 13. pl. 2.—*Flem. Br. Anim.* 1. 132. No. 210.

Dabchick, *Rennie's Mont. Ornith. Dict.* 126.

Podiceps Hebridicus, *Lath. Ind. Orn.* 2. 785. sp. 11.

Colymbus Hebridicus, *Gmel. Syst.* 1. 594.

Black Chin Grebe, *Br. Zool.* 2. 503. No. 227.—*Lath. Syn.* 5. 292.—*Levin's Br. Birds*, 5. pl. 201.—*Mont. Orn. Dict. and Sup.*—*Saverby's Br. Mis.* pl. 70.—*Bewick's Br. Birds*, ed. 1826, 32164. } Old.

Podiceps minor, *Lath. Ind. Orn.* 2. 784. sp. 9.—*Raii Syn.* 125. A. 3.

Colymbus minor, *Gmel. Syst.* 1. 591.

Colymbus fluviatilis, *Briss. Orn.* 6. 59. 9.

Le Grèbe de Riviere, ou le Castagneux, *Buff. Ois.* 8. 224. t. 20.—*Id. Pl. Enl.* 905. } Young.

Little Grebe, *Penn. Br. Zool.* 2. 501. No. 226.—*Lath. Syn.* 5. 289.—*Levin's Br. Birds*, 5. pl. 200.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br.* 1826. p. t. 163.

PROVINCIAL.—*Dabchick*, *Dobchick*, *Didapper*, *Dipper*, *Small Doucker*, *Loon*.

THIS well known little species, in many parts recognised by the name of *Dabchick*, is indigenous, and very generally

met with throughout the kingdom, in all such places as suit its particular economy. In the southern counties of England, where ponds are often fringed with aquatic plants, and the rivers and brooks run deep and slow, the Dabchick is much more plentiful than in the northern districts, where the streams being generally shallower, and the current rapid, there is not a sufficient growth of aquatic herbage upon their borders, to afford this and birds of a similar nature concealment during the period of nidification. Like most of its congeners, the present species, in its progress to maturity, is subject to a considerable change in the colours of the plumage, more particularly about the head and neck, and has, in the different states, been described by authors as two distinct species, viz. as the *Little Grebe* and the *Black-Chin Grebe*, the first denoting the young bird, the other after it has acquired the characteristic markings of maturity. It leads a truly aquatic life, being seldom seen on shore, where, indeed, it is unable to make much progress, from the conformation and position of its feet; but this deficiency is compensated by powers more adapted to its peculiar habits, those of swimming and diving, which it possesses in as great perfection as any of its tribe. When disturbed, it immediately dives, and remains for some time submerged; and should the cause of its apprehension still continue in sight, after a first survey, it retires to the weeds, where it remains with the body immersed, and with the bill and part of the head only above the water.—Its food consists of aquatic insects, small fish, grasses, &c., and in its stomach, when opened, is generally found a small mass of its abdominal feathers. During winter, when the ponds and brooks become frozen, Dabchicks betake themselves to the mouths of rivers and small retired bays, where they feed upon shrimps, fry of fish, and marine insects. At this season I have several times caught them in Budle Bay on the coast of Northumberland, when they happened to be left in small pools after the recess of the tide. Having first dived, they afterwards invariably endeavoured

Food.

to conceal themselves among the fronds of the algae, rarely attempting to escape by flight. They are, however, by no means destitute of this power, but can skim near to the surface of the water by a rapid action of the wings, and, as MONTAGU observes, are frequently seen to do so during the pairing season, when the males are in pursuit of the other sex. This, like the others of its genus, breeds among the reeds and coarse herbage of the waters it inhabits, and (according to Dr RENNIE, who appears to have inspected many of them) generally so fixes its nest to the surrounding tufts, Nest, &c. or upon the vegetable *debris* of former years, as to render it secure, and not liable to be moved or acted on by the water. TEMMINCK, however, says, that it makes a floating nest; his words are—"Nid flottant dans les roseaux," and other authors have asserted the same. Both modes, I believe, are occasionally adopted, and are dependent upon the nature of the site that the bird happens to select. It is formed of a large mass of decayed roots, flags, and other herbage; and contains usually five or six eggs of a greenish-white, in size nearly equalling those of the Spotted Crake (*Crca Porzana*), but different in form, each end being similarly rounded. These the female, when she quits her nest to obtain food, covers over with loose materials, a habit possessed by many other birds, and probably by all the species of the present genus, apparently for the concealment and protection of the eggs, and not for the purpose of retaining the warmth of incubation, as suggested by Dr RENNIE, in his plan of study appended to his edition of MONTAGU'S Ornithological Dictionary.

PLATE 75. Fig. 1. Represents the Adult bird, or in the state of the *Black-Chin Grebe* of PENNANT and other authors.

Bill five-eighths of an inch in length from the forehead to the tip, black, with the basal part and the lore greyish-white. Irides deep reddish-brown. Outside of the legs

General
description.

greenish-black, inside livid, and tinged with flesh-red. Asperities on the hinder edge of the tarsus prominent, and sharp-pointed. Head, chin and throat, nape and back part of the neck, glossy black, with a slight tinge of green. Auriculars, sides of the neck, and middle of the fore part of the neck, rich orange-brown. Breast, sides and flanks, glossy blackish-grey, the latter having the lower parts of the feathers and the down pale reddish-brown. The rest of the under plumage silky white, intermixed with blackish-grey. Upper plumage glossy black, tinged with oil-green. Secondary quills having their bases, and the greater part of the webs, white.

Fig. 2. Represents the immature bird, destitute of the orange-brown upon the neck, and having the chin white. The upper plumage is also lighter in colour, and the belly and abdomen are pure white.

GENUS COLYMBUS, *LATH.* DIVER.

GENERIC CHARACTERS.

BILL rather longer than the head, strong, strait, compressed, and sharp pointed; the upper mandible slightly exceeding the lower one in length. Tomia of both mandibles bent inwards and sharp. Nostrils basal, lateral, linear, oblong, pervious, half closed by a membrane.

Wings short, acuminate, having the first quill-feather the longest. Tail short and rounded.

Legs abdominal, or placed at the further extremity of the body, with the tibiæ concealed within the integument. Tarsi thin, very much compressed. Feet large, of four toes, three before and one behind; outer toe exceeding the middle one

in length. Front toes entirely webbed, hind toe furnished with a lobe, and partly connected with the exterior membrane of the inner toe. Nails flat and broad.

General contour broad and flat. Plumage thick, close, adpressed, and glossy.

In their aquatic habits and mode of life, the Divers strongly resemble the preceding genus, being the constant inhabitants of the watery element, to which, indeed, we may consider them as equally confined by the similar conformation and position of their legs. They differ, however, from the Grebes in having the toes connected throughout their length, as in the *Alcedæ* and *Anatidæ*; but their form and articulation are like those of Grebes, and the tarsus is of the same compressed shape. In this genus the hind toe, in addition to its lobe, is connected towards its base with the membrane skirting the exterior edge of the inner toe, shewing in this respect an apparent approach to the *Pelicanidæ*. They possess a true tail, but it is very short, and concealed by the upper coverts, which are as long as the rectrices. Their wings are short and sharp pointed; and though they rarely fly, yet they can do so occasionally, both with swiftness and for a considerable time. In swimming, their broad and flattened body is immersed in the water, the head and neck only appearing above the surface. They dive continually, and with little apparent exertion; their progress beneath is very rapid, and they can stretch to a great distance without rising to breathe. They live upon fish, aquatic insects, and sometimes vegetables, but the first form the principal part of their support. During their Polar migration they retire to the fresh water lakes of the interior, where they breed close to the brink of the water, upon islets, or other suitable stations; but on the approach of winter repair again to the ocean. They lay but two eggs, and the young differ greatly from the adults in plumage, not acquiring maturity until after the third general moult. They are birds of a wild dis-

position, and their notes, or rather screams, are loud and melancholy in tone. The species hitherto discovered are three, all belonging to the Northern Hemisphere, and inhabiting the arctic regions of both worlds. Their flesh is (as might be expected) very fishy, as well as hard and coarse-grained, and their skins thick and tough. With respect to tracheal organization, neither the Divers nor the Grebes possess any peculiar enlargement or labyrinth.

NORTHERN DIVER.

COLYMBUS GLACIALIS, Linn.

PLATE LXXVI.

Colymbus glacialis, Linn. Syst. 1. 221. 5.—Gmel. Syst. 1. 588.—Lath. Ind. Orn. 2. 799. sp. 1.—Sabine, Frank. Jour. Ap. 703.—Shaw's Zool. 12. 233. pl. 61. young.—Flem. Br. Anim. 1. 132. sp. 211.—Faun. Amer. Boreal. 2. 474. No. 232.

Mergus major naevius, Briss. Orn. 6. 120. 6. t. 11. f. 2.

Colymbus maximus caudatus, Raii Syn. 125. A. 4.—Will. 259.

L'Imbrin ou Grand Plongeon, Buff. Ois. 8. 253. t. 22.—Id. Pl. Enl. 952. Plongeon Imbrin, Temm. Man. d'Ornith. 2. 910.—Lesson, Orn. Dict. 2. 359.

Eis Taucher, Bechst. Naturg. Deut. 4. 595.

Greatest Speckled Diver or Loon, Albin's Br. Birds, 3. pl. 93.

Northern Diver, Penn. Br. Zool. 2. 523. No. 237. pl. 84. f. 2.—Arct. Zool. 2. 439.—Lath. 6. 337.—Lewin's Br. Birds, 6. pl. 226.—Mont. Orn. Dict. and Ap. to Sup.—Pult. Cat. Dorset, 17.—Bewick's Br. Birds, ed. 1826, p. t. 174.—Wils. Amer. Orn. 9. 84. pl. 74. f. 3.—Low's Faun. Orcad. 108.

Loon, Rennie's Mont. Orn. Dict. 307.

Colymbus immer, Linn. Syst. 1. 222. 6.—Gmel. Syst. 1. 588.—Lath. Ind. Orn. 800. sp. 2.

Mergus major, Briss. 6. 105. 1. t. 10. f. 1.

Colymbus maximus Gesneri, Raii Syn. 126. 8.—Will. 260.

Le Grand Plongeon, Buff. Ois. 8. 251.

Imber Diver, Penn. Br. Zool. 2. 524. No. 238. pl. 84. f.—Arct. Zool. 2. 440.—Lath. Syn. 6. 340.—Lewin's Br. Birds. 6. pl. 227.—Mont. Orn. Dict. 1. and Sup.

The Immer, Low's Faun. Orcad. 110.

PROVINCIAL—Great Doucker, Herdsman of the Sea, Ember Goose, Gunner, Loon, Naak.

Young.

Periodical
visitant.

UPON the Northumbrian and other northern coasts of England, and in the friths and bays of Scotland, and its isles, the Northern Diver, under its stages of immaturity, is a

common winter visitant. The state in which it is most frequently met with (speaking of the district in which I reside), is as the bird of the year ; at this age answering to the Imber Diver of our authors (*Colymbus Immer*), and long supposed to be a distinct species. The next in number are birds of more than one year old, which have undergone, or are then undergoing, a second general moult, at which time the white spots upon the upper plumage begin to appear, and the head and neck to grow darker. The adult bird (*Colymbus glacialis* of authors), is comparatively but rarely met with, and out of more than twenty specimens which have at different times come under my observation, not more than two had attained maturity. Dr FLEMING also states, that in Shetland, where the young are numerous, few old birds occur, but that in the Orkneys both old and young abound during the winter. The Frith of Forth is also a favourite resort, to which they are attracted by the shoals of herring that reside there, and are even caught throughout the winter; and in this gulf some of the finest specimens I have seen of the adult bird have been obtained. It has not yet been ascertained whether any remain to breed here, as its congener the Red-throated species is known to do, the old birds all apparently retiring on the approach of spring to higher latitudes for this purpose. During summer they quit the ocean and inhabit the fresh-water lakes of the countries to which they migrate, and upon the shores of these lakes, and on the islets by which they are often studded over, the Divers form their nests and hatch their young. The nest is always close to the water's edge, so as to afford every facility to a bird whose motions on land are necessarily very constrained. The eggs, which never exceed two in number, are large, and of a deep oil-green colour, with variously sized spots of purplish-red. This species is widely distributed throughout the arctic regions of Europe and Asia, and is equally common in the corresponding latitudes of North America. Dr RICHARDSON, in the *Fauna Americæ Borealis*, describes it as

Nest, &c.

Food.

abounding on all the interior lakes of the Fur Countries, but not often seen either in the Arctic Seas or in Hudson's Bay.—Its principal food consists of fish, though it also devours aquatic insects, and TEMMINCK adds marine vegetables; but I never found any remains of the latter in the stomachs of those I have dissected. When inhabiting the ocean, the different species of herring (as I have before remarked), are a favourite food; other small fish, however, are not refused, and MONTAGU mentions one that was gorged with the spotted goby (*Gobius minutus*.) Its powers in swimming and diving are very great, particularly the latter, which it is constantly exercising, either in pursuit of prey or to escape observation; and its progress in this manner, from my own observations (corroborated by MONTAGU's statement respecting the Red-throated Diver), may be calculated at more than seven miles in the hour. It generally proceeds for a hundred or a hundred and fifty yards at a time without rising for respiration, which is then almost instantaneously accomplished by the mere exposure of the head and bill. In swimming, the body is not visible, being under water from its weight and flatness, and this situation enables it to dive with little apparent exertion, the depression of the head, and a slight propulsive effort with the feet, being sufficient for that purpose. The construction of the legs of this genus, and that of *Podiceps* (as I have before observed), is such as to disable them from walking; the backward position and confined action imposed by the close connexion of the tibia and femur with the body, caused by the covering of the integuments, and the attachment of a long process at the head of the tibial joint, necessarily producing this effect. In addition to this, the femoral or thigh-bone is remarkably short, and stands at a right angle with the body, thus giving an outward direction to the feet, and only allowing a sub-rotatory motion to the tibia, a mode of structure that, however beautifully adapted for the watery element, can be of little use upon land. The only method of progression, therefore,

which this bird possesses, when so situated, is that of shoving itself forward by striking the ground with its feet whilst the breast is resting upon it. This I have observed to be done by several that have been brought to me alive; and MONTAGU mentions the same in his account of an individual that was kept alive by him for some time, and which, contrary to the generally received opinion respecting this bird, soon grew very tame, and would come at the call for food. The Northern Diver rarely flies, as it rises with difficulty from the surface of the water, but when once upon wing, its flight is swift, and, Dr RICHARDSON observes, frequently in a circle round those who intrude upon its haunts. Its cries are frequently loud and melancholy in tone, and have been compared to the screams of a man in distress, but it also occasionally utters a low hoarse croak. Its plumage is very thick and close, with a tough skin, on which account it is much used by the natives of the northern countries to form comfortable articles of clothing. The flesh is hard, very dark coloured, and of a rank fishy flavour.

PLATE 76. Represents an Adult bird from a beautiful specimen in the collection of Sir WILLIAM JARDINE, Bart. that was killed in the Firth of Forth.

Bill black, paler towards the tip, nearly three inches long, much compressed, tapering, the upper mandible gently arched, the lower one channelled beneath, and deepest in the middle, the angle sloping gradually upwards to the point; tomia of both mandibles inflected. Head and neck black, glossed with purplish-green. Transverse bar upon the throat, middle neck collar, and sides of the upper part of breast, black, the feathers having raised white margins, which give those parts a striated appearance. The whole of the upper plumage glossy-black, each feather having two pure white spots, one on each side of the shaft near the tip, forming rows; those upon the scapulars and tertials large and quadrangular,

General
description.
Adult.

but becoming small and nearly round upon the lower part of the back and rump. Flanks and sides black, spotted with white. The rest of the under plumage white; the long axillary feathers the same, with a black stripe down their centres. Tail short and rounded, black, consisting of twenty feathers. Legs greyish-black, paler on the inside. Irides reddish-brown.

Young.

First year.

The young of the year (*Colymbus Immer*, Auctor.) differ strongly from the adults, as follows:—Head, and back part of the neck, deep-grey, tinged with clove-brown. Fore part of the neck, and the under plumage, pure white, except the flanks, which are clove-brown. Upper plumage deep clove-brown, the feathers being margined with ash-grey. Upper mandible of the bill deep-grey, the under one much paler.

Second
year.

After the second general moult, a darkish band appears on the middle of the neck, and the upper plumage becomes darker, losing the pale grey edges that distinguish the young of the year, and a few white spots begin to shew themselves.—The succeeding moult developes still more the bar and neck collar; and the head and neck become darker, or of a blackish-green, speckled upon the chin and throat with white. The upper plumage also acquires its glossy black lustre, with the accompanying quadrangular white spots. In the next change, or when the bird has passed its third year, the plumage is perfected.

Third
year.

BLACK-THROATED DIVER.

COLYMBUS ARCTICUS, Linn.

PLATE LXXVII.

Colymbus arcticus, *Linn. Syst.* 1. 221. 4.—*Gmel. Syst.* 1. 537.—*Raii Syn.* 125. 7.—*Will.* 259. t. 62.—*Lath. Ind. Orn.* 2. 800. sp. 4.—*Shaw's Zool.* 12. 236.—*Flem. Br. Anim.* 1. 133. sp. 212.—*Faun. Amer. Boreal.* 2. 475. No. 233.

Mergus gutturo nigro, *Briss.* 6. 115. 4.

Le Lumme ou Petit Plongeon de la Mer du Nord, *Buff. Ois.* 8. 261.

Plongeon Lumme, ou à Gorge noir, *Temm. Man. d'Ornith.* 2. 913.—*Lesson, Man. d'Orn.* 2. 359.

Der Polar Taucher, *Bechst. Naturg. Deut.* 4. 600.

Black-throated Diver, *Penn. Br. Zool.* 527. No. 251. pl. 85.—*Arct. Zool.* 2. 466.—*Edward's Glean.* t. 146.—*Lath. Syn.* 6. 343. 4.—*Lewin's Br. Birds.* 6. pl. 229.—*Mont. Orn. Dict.* 1.—*Bewick's Br. Birds*, ed. 1826, p. t. 181.—*Shaw's Zool.* 12. 336., &c.

Lumme, *Rennie's Mont. Orn. Dict.* 310.

Lesser Imber, *Bewick's Br. Birds.* ed. 1826, p. t. 176, the young.

PROVINCIAL.—Northern Doucker, Speckled Loon.

THE Black-throated Diver, in all its states of plumage, is of much less frequent occurrence than either the preceding or the following species, nor does it extend its migration so far to the south as they occasionally do, the instances of its capture beyond the Scottish boundary being extremely rare. It would appear, however, that individuals sometimes remain over the summer, and probably even breed, on the lakes of the Western and Northern Highlands, as I have seen a pair upon Loch Awe towards the end of June, but did not succeed in detecting their place of nidification. By some naturalists the Black and Red-throated Divers have been considered as one species, the former being the male, and the latter the female bird; and even Dr FLEMING, in his History of British Animals, seems to entertain a doubt on the subject, stating, in favour of such an opinion, that he once saw a bird of each species together (or at least what he imagined at a distance to be such), with a young one. The Red-throated bird it appears was secured, and proved to be a

Periodical
visitant.

female, but the supposed black one unfortunately escaped. A minute examination, notwithstanding, of the old and young of both species, can scarcely fail to convince any unprejudiced person of there being ground for a real specific distinction, as the difference in the form of their bills, their relative size, and the disposition of their colours, are well marked and sufficiently obvious. That both sexes of the present species possess the *black* mark upon the throat, I have had convincing proof, by the dissection of one of these birds in the matured plumage, that was killed upon the Tweed, and which was a *female*; and I may also add, that Red-throated Divers of both sexes are frequently taken. Like the others, it is a native of the Arctic Regions of both the new and ancient world, and during the summer is found in very high latitudes; Dr RICHARDSON says that it is common in Hudson's Bay, but is rarely seen upon the lakes in the interior. Its equatorial or winter migration in Europe extends as far as Switzerland, where it is sometimes seen upon the larger lakes.—It breeds upon the brink of the water, and, like the Northern Diver, lays but two eggs, which are stated to be of a yellowish-brown, or isabella colour, blotched with black. It dives with the same ease, and as perseveringly as the other species, and can remain long submerged, making very great progress during its submarine flight, as was experienced by Sir WILLIAM JARDINE and myself, when in chace of this bird in a light and handy boat upon Loch Awe. Our utmost exertion could never bring us within range, and we were often foiled by its returning on its former track, and re-appearing in a direction contrary to that in which it seemed to have dived. During this pursuit it was frequently lost for *several* minutes together, and came up nearly a quarter of a mile a-head, and its progress could not, I should think, have been much under the rate of eight miles in the hour.—

Nest, &c.

Food.

The Black-throated Diver lives upon fish, aquatic insects, and such other food as it procures under water. Its skin is highly prized by the Eskimaux and Indians for its warmth

and beauty, and numbers of them are dressed and made into garments. That the *Lesser Imber* of BEWICK is the young of the year of this species, I have no doubt, the original specimen from which his figure was taken having been sent to me for inspection.

PLATE 77. Represents the Adult bird in about two-thirds of the natural size, taken from a very perfect specimen that was killed on the river Tay.

Bill brownish-black, strait, strong, and tapering, with the upper mandible arched. Irides reddish-brown. Head and neck deep smoke-grey, darkest upon the forehead and region of the eyes. Throat and fore part of the neck black, glossed with rich auricula purple and green. Below the throat a narrow transverse band of black and white. From the ears, and on each side of the neck, extends a broad band, rayed longitudinally with black and white, of the same raised appearance as in *Colymb. glacialis*. Upper plumage deep glossy black, the side feathers of the mantle, and the greater part of the scapulars, with large quadrangular white spots, forming upon the latter about fifteen transverse bars. Wing-coverts spotted with white. Sides and flanks black. The rest of the under plumage pure white. Legs deep clove-brown outwardly, paler within. Both sexes alike.

General description.

Adult bird.

The young of the year, or BEWICK's Lesser Imber, is very similar to *C. glacialis* at the same age.—Head and back part of the neck grey. Throat and under parts white. Back deep grey, or clove-brown, margined with ash-grey. At the next moult, the head and nape of the neck become a purer grey, and some black feathers appear on the under part of the neck. The feathers of the back also become darker, and a few black ones are seen interspersed. The two succeeding moults gradually develop the distinctive markings, and the plumage is perfected at the conclusion of the third year.

Young bird.

RED-THROATED DIVER.

COLYMBUS SEPTENTRIONALIS, Linn.

PLATE LXXVIII. AND LXXXVIII.*

Colymbus septentrionalis, Linn. Syst. 1. 220.—Gmel. Syst. 1. 586. sp. 3.
—Lath. Ind. Orn. 2. 801. sp. 5.—Sabine, Frank. Jour. Ap. 703.—Shaw's
Zool. 12. 238.—Flem. Br. Anim. 1. 133. No. 213.—Faun. Amer.
Boreal. 2. 476. No. 234.

Mergus guttate rubro, Briss. Orn. 6. 111. 3. t. 11. f. 1.

Le Plongeon à Gorge rouge, Buff. Ois. 8. 264.—Id. Pl. Enl. 308.

Plongeon Cat-Marin, ou à Gorge rouge, Temm. Man. d'Ornith, 2. 916.
—Lesson Man. d'Orn. 2. 359.

Petit Plongeon, Cuv. Reg. Anim. 1. 509.

Rothkehliger Taucher, Bechst. Naturg. Deut. 4. 609.—Meyer, Tasschenb.
2. 453.—Red-throated Diver, Penn. Br. Zool. 2. 526. No. 240. pl. 85.—
Arct. Zool. 2. 443.—Edwards' Glean. t. 97.—Lath. Syn. 6. 344. 5.—
Lewin's Br. Birds, 6. pl. 230.—Mont. Orn. Dict. and Sup.—Bewick's
Br. Birds, ed. 1826, 2. p. t. 177.—Shaw's Zool. 12. 238.—Low's Faun.
Orcad. 112.

Cobble, Rennie's Mont. Orn. Dict. 94.

Young after
moult.

Colymbus borealis, Lath. Ind. Orn. 2. 801. sp. 6.

Colymbus striatus, Gmel. Syst. 1. 586.—Lath. Ind. Orn. 2. 802. sp. 9.

Striped Diver, Arct. Zool. 2. 442.—Lath. Syn. 6. 345. 6.

First Speckled Diver, Bewick's Br. Birds, ed. 1826, p. t. 179.

Colymbus stellatus, Gmel. Syst. 1. 587.—Lath. Ind. Orn. 2. 800. sp. 3.

Mergus minor, Briss. Orn. 6. 108. 2. t. 10. f. 2.

Le Plongeon Cat-Marin, Buff. Ois. 8. 256.

Le Petit Plongeon, Buff. Ois. 8. 254. t. 21.—Id. Pl. Enl. 992.

Young of
the year.

Speckled Diver or Loon, Br. Zool. 2. 525. No. 239.—Arct. Zool. 2. 441.
—Lath. Syn. 6. 341.—Lewin's Br. Birds, 6. pl. 228.—Mont. Orn. Dict.
and Sup.

Second Speckled Diver, Bewick's Br. Birds, ed. 1826. p. t. 180.

Grey Speckled Diver, Low's Faun. Orcad. 111.

PROVINCIAL.—Sprat Loon, Cobble, Rain Goose, Little Naak.

Periodical
visitant.

THE apparent recurvation of the bill of this species, occasioned by the straitness of the upper mandible, and the ascending angle of the lower one and its comparative slenderness and cylindrical shape, are characters of themselves sufficient to distinguish it all times from the preceding one. Others, however, of not less importance as regards specific distinction, are found in the colours and disposition of the plumage, which, at all ages and seasons, is essentially different from that of the Black-throated Diver in its whole pro-

gress from the nest to maturity ; and we may further add, that the present species is always inferior in size. It is much more numerous and generally dispersed throughout the British Islands than either of its congeners, its winter migrations extending to the southern districts of England. It inhabits bays and inlets upon the coast, and the mouths of large rivers, ascending these latter through the course of the tide in pursuit of its prey, which consists of the fry and smaller species of fish. In the Thames it is a great devourer of the sprat, from its partiality to which, it has, amongst the fishermen there, obtained the name of *Sprat-loon*. It is also occasionally found more inland, residing upon our lakes and rivers till driven by the severity of the season to the unfrozen waters of the ocean. The greater part of those that visit us are (as might be expected from the time required to attain maturity), in their adolescent plumage, and of these the birds of the year form the larger proportion. Adult specimens are therefore comparatively rare, and might perhaps be estimated at not more than one in fifty. This species is widely spread throughout the Arctic Regions of Europe, Asia, and America ; and in the latter, according to Dr RICHARDSON, it is abundant upon the coasts of Hudson's Bay, and on the lakes of the interior, its haunts reaching even to the extremity of Melville peninsula. In Europe it retires during summer (if we except the few that breed on the northern Scottish lakes) to high latitudes ; but during its winter or equatorial migration, is spread along the different continental coasts, and through the various lakes and rivers as far to the northward as Italy. In the Orkneys, as stated by Low, it breeds annually in a lake amongst the hills of the Isle of Hoy, and the nest is so situated that the bird can step from it with ease into the water. It forms it of moss, and a few stems of grass or aquatic plants mixed with a quantity of its own down. The eggs are two in number, rather long, and equally rounded at each end ; their colour is not mentioned by Low ; but Dr RICHARDSON describes those from North America as

Food.

of a plain oil-green, to which TEMMINCK,* in his account, adds a few brown spots. It is, therefore, probable, that they are subject to some variation, from an immaculate to a spotted appearance. When fairly on wing, the Red-throated Diver flies with great strength and swiftness, and often at a considerable height; but, except to descend from the lakes to the sea, or to perform its migrations, it seldom thus exerts its pinions, trusting, in avoidance of danger, more to its powers in diving; and this it performs with as much ease as its congeners, remaining nearly as long submerged. MONTAGU, in the Supplement to his Ornithological Dictionary, under the article *Speckled Diver* (the young of this species), says that the distance between the place of immersion and emersion, in a bird which he pursued upon a canal, averaged from eighty to ninety yards; and that the rate of progress beneath the surface was between six and seven miles in the hour, whilst by swimming it did not exceed four and a-half. This species utters at times loud cries, and also hoarse croakings, which, having been observed by the natives to precede foul weather, have obtained for it the name of the *Rain Goose* in the Orkneys, where all the larger sea fowl receive the appellation of *Goose*, and the smaller ones that of *Duck**.

General description. PLATE 78*. represents the Adult Bird, killed in the spring.

Adult bird.

Bill blackish-grey, two inches and two-eighths in length, from the forehead to the tip; the upper mandible straight, the lower one with a long ascending angle, giving to the bill the appearance of being slightly recurved; tomia of both mandibles much inflected and very sharp. Sides of the head, chin, and sides of the neck deep smoke-grey. Crown of the head blackish-grey; the feathers being margined with smoke-grey. Nape and hind part of the neck glossy blackish-grey, margined with white.

* Sir WILLIAM JARDINE had a specimen of the *Roller* sent to him from Shetland, where it was killed, as a rare and curious *Duck*.

Fore part of the neck having a large patch of deep orange-brown. Lower part of the neck, and sides of the breast, white, with the central parts of the feathers blackish-grey.

Under plumage silvery white, except the flanks, which are deep clove-brown. Upper plumage deep clove-brown, with a slight glossy green reflection. Irides red. Outside of the legs greenish-grey ; inside livid, or purplish-white, tinged with blue. Membrane of the toes the same.

PLATE 78. represents a Young Bird, of the natural size. Young Bird.

Forehead, crown, nape, and back part of the neck deep grey, finely streaked with greyish-white. Chin, throat, and under plumage, white. Flanks with large arrow-shaped dark grey spots. Upper plumage blackish-grey, inclining to clove-brown ; the margins of the feathers being deeply bordered near their tips with white and smoke-grey. Quills deep clove-brown. Bill ash-grey, tinged with flesh-red. Outsides of the legs dark greenish-grey ; inside surface and webs greenish-white. Irides reddish-brown.

After the second moult, the grey upon the head, cheeks, &c. acquires the tint of the adult ; and a few red feathers are often found mixed with the white upon the fore part of the neck. The upper parts assume a deeper tint ; the spots of white grow less, frequently changing to a yellowish-white ; and as the bird advances to maturity entirely disappear.

FAMILY III.—ALCADÆ.

APPROACHING closely in form, and possessing natatorial powers fully equal to the *Colymbidæ*, the present family,

comprising the Guillemots (Genus *Uria*), Auks (Genus *Alca*), Penguins (Genus *Aptenodytes*), and other nearly allied groups, forms a second *typical* division of the Order *Natatores*. The greater part of the *Alcadæ* are distinguished by having only three palmated toes, and where a fourth or hind toe does exist, it is very small, and without a membrane; and also directed forwards, as in *Pelecanidæ*, thus leading the way to the connexion of the present with that aberrant family. We also find in them the shortness of wing, and consequent deficiency in power of flight (which seems in general most prevalent as aquatic habits become most decided), carried to the greatest extreme; the wings of the Penguins, and other nearly allied genera, being so short and imperfectly developed, as to be totally unfit for the purpose of flight, and adapted to act merely as fins, in aiding their progress beneath the water. As in the *Colymbidæ*, the legs of the birds of this family are placed far backwards, but at scarcely so great an angle with the body as in the former, in consequence of which they are enabled to sit in an upright attitude, resting equally on the foot and the whole length of the tarsus. They are all attached to the ocean, never resorting to fresh water, like the *Colymbi*. Many of the species that are able to fly, nestle on rocks and precipices, where they lay a single egg, of a conical form, a shape which prevents it from rolling away or moving (except within a circle of the diameter of its own length), on the bare rock where it is deposited. Some burrow in the light sandy soils of the small islands they frequent; and the Penguins, and other species, that have not the power of flight, incubate upon the shore immediately above high-water mark. The bill has a variety of form in the different genera, but commonly much compressed, and often grooved on its sides; exhibiting through all its modifications a beautiful illustration of the progressive series of affinities that unite the members with each other. The food of this family consists of fish, crustaceæ, and other marine animal productions.

GENUS *URIA*, BRISS. GUILLEMOT.

GENERIC CHARACTERS.

BILL of mean length, strait, strong, compressed, pointed, and cultrated. Upper mandible slightly arched towards the tip. Tomia intractated. Angle of the lower mandible gently ascending. Commissure nearly strait. Nostrils basal, lateral, concave, longitudinally cleft, and half covered by the feathers of the *antia*, or projecting side angles of the cranium.

Wings short, narrow, and acute. Tail of twelve or fourteen feathers ; very short.

Legs situated at the back part of the abdomen ; the tibiae concealed within the integuments. Tarsi short and compressed. Feet of three toes, all directed forwards, and palmed ; outer and middle toes of equal length, the inner one much shorter. Claws falcate, and sharp-pointed ; the middle one the longest.

In the form of the bill, in the birds of this genus, we trace a strong resemblance to that of the Divers, with which they were systematically associated by the earlier writers. They have, however, since been judiciously separated from the *Colymbidæ*, not only on account of the different form of the foot, but for the greater affinity they bear to the rest of the *Alcadæ*, in many other essential particulars. They are oceanic birds, and, unless from fortuitous circumstances, are never seen upon fresh water. They swim well, and dive with great ease ; are able to remain long beneath the surface, and reach to a great distance. In this way, indeed, they obtain their prey, which consists of fish and marine insects. From the shortness of their wings, their flight is confined to small distances, and near to the surface of the water ; it is,

however, tolerably rapid, being sustained by quickly repeated strokes of the pinions. They breed upon the ledges and precipitous summits of rocks overhanging the sea, laying one large conical egg, broad at one end, and very narrow at the other, it being prevented by this form from rolling off the shelving place of its deposit. From the backward position and confined movement of the legs, their progress on land is very limited; and they sit, in an upright position, upon the foot and whole length of the tarsus. Their plumage is very thick, close-set, and, in the living state, impervious to the action of the water. They are subject to a double moult, and their summer (or nuptial) dress differs in many respects from that of the winter.

FOOLISH GUILLEMOT.

URIA TROILE, Lath.

PLATE LXXIX.

Uria Troile, Lath. Ind. Orn. 2. 796. sp. 1.—*Steph.* Shaw's Zool. 12. 244. pl. 62. f. 1.—*Flem.* Br. Anim. 1. 134. sp. 214.—*Faun. Amer. Boreal.* 2. 477. No. 235.

Colymbus Troile, Linn. Syst. 1. 220. 2.—*Gmel.* Syst. 1. 585.

Uria, Briss. 6. 70. 1. t. 6. f. 1.

Iomwia Hoieri, Raii Syn. 120. A. 4.—*Will.* 244. 5.

Le Guillemot, Buff. Ois. 9. 350.—*Id.* Pl. Enl. 903.

Guillemot à Capuchon, Temm. Man. d'Orn. 2. 921.—*Lesson,* Man. d'Orn. 2. 361.

Grand Guillemot, Cuv. Reg. Anim. 1. 509.

Foolish Guillemot, Penn. Br. Zool. 2. 519. No. 234.—*Arct. Zool.* 2. 436.—*Albin's* Birds, 1. pl. 84.—*Edwards' Glean.* 359. f. 1.—*Will.* (Angl.) 324.—*Lath.* Syn. 6. 329. 1.—*Id.* Sup. 265.—*Lewin's* Br. Birds, 6. pl. 220.—*Mont.* Ornith. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826, 2. p. t. 168.—*Shaw's* Zool. 12. 246. pl. 63.

Uria minor, Steph. Shaw's Zool. 12. 246. pl. 63.

Colymbus minor, Gmel. Syst. 1. 585.

Der Dumme Lumme, Bechst. Naturg. Deut. 4. 574.

Troilumme, Meyer, Tasschenb. Deut. 2. 445.

Lesser Guillemot, Penn. Br. Zool. 2. 520. No. 235. pl. 63.—*Arct. Zool.* Sup. 69.—*Lath.* Syn. 6. 332. 2.—*Mont.* Ornith. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826, 2. p. t. 168.—*Shaw's* Zool. 12. 246. pl. 63.

Young and
Old in winter
plumage.

PROVINCIAL—Guillem, Sea-Hen, Scout, Willock, Skiddaw, Murge, Lary, Strany, Tinkershire, Marrot, Scuttock, Murse, Lungy.

THE above list of provincial appellations, bestowed upon the Guillemot in different parts of Britain, is a sufficient proof of its general distribution and frequent occurrence. It is in fact (at least during the summer or breeding season), to be found throughout the whole extent of our coasts, congregated in large bodies, wherever the shores offer a precipitous rocky barrier, or islands occur, affording fit places for its reproduction. Such are the ledges and clefts of rocks, where these birds incubate close to each other; making no nest, but each depositing its large solitary egg upon the bare and often sloping surface, along which it is secured from rolling by its conical shape, being very large at one end, and tapering rapidly towards the other; thus, when disturbed, merely describing a circle within its own length. The egg varies in colour and markings, but the prevailing tint is a fine verdigris-green, blotched with brownish-black. White varieties, without or with few spots, also frequently occur. Incubation lasts for a month, and when the young are first excluded, they are covered with a thick down, of a blackish-grey colour above, and white beneath. This gradually gives place to the regular plumage, and in the course of five or six weeks from the time of hatching, they are capable of taking to the water. During the time they remain upon the rock, the parents supply them plentifully with the young of the herring, and herring-sprats, which form the principal food of this and other species belonging to the *Alcæde*. Upon the Northumbrian coast these Guillemots breed in great numbers on the Fern Islands, a locality that has afforded me ample opportunities of attending to their economy, and watching the changes they undergo. They have here selected the summits of three fine isolated pillars, or masses of *whinstone* (trap-rock), that rise upwards of thirty feet above the level of the sea. Upon these the eggs are laid as close as possible, merely allowing room for the birds to sit upon them, which they do in an upright position. The appearance they make when thus seated in a dense mass, is curious, and the interest

is increased by the number of Kittiwakes (*Larus tridactylus*), which hover around, and which breed in the small side clefts, or on the projecting angles of the rocks; and by the nests of two or three Crested or Green Cormorants, which, from the unusual confidence they display in continuing to sit upon their eggs, even when overlooked from the opposite precipice at only a few yards distance, seem to be well aware of the security of the station they have chosen. The great body of the breeding birds arrives towards the end of March or the beginning of April, at which time most of them have acquired the perfect nuptial plumage. I have, however, obtained them much earlier, and when the white upon the throat was only giving place to the pitch-coloured black that distinguishes them till after the sexual intercourse. After the period of reproduction they leave the rocks, and betake themselves entirely to the ocean, when the old birds undergo the moult that assimilates them to the young, or *Lesser Guillemot* of authors. At this time they often lose so many of their quill-feathers, as to be totally incapable of flight; but these are soon reproduced, and the colonies which had made the English coasts their summer quarters, retire to more southern latitudes to pass the winter months. Their place in this country is but sparingly supplied by a few stragglers from the great bodies that, being bred in still higher latitudes, make the friths of Scotland and its isles the limit of their equatorial migration. Much difference of opinion prevailed amongst ornithologists a few years ago, as to whether this bird in the summer plumage was not specifically distinct from that state of it in which, together with the young, it has been called the *Lesser Guillemot*. But the question seems now to be satisfactorily determined by the investigations that have been instituted, and the increased attention latterly bestowed upon the changes, that so many birds periodically undergo, and which prove their identity beyond a doubt. It may not, nevertheless, be amiss to glance at the reasons advanced by MONTAGU, in favour of this distinction, as how-

ever plausible they may at first sight appear, and (as proceeding from a practical ornithologist and keen observer) entitled to attention, I cannot consider them to be of the weight that many feel inclined to allow. In his observations upon the Foolish Guillemot, in the Appendix to his Ornithological Dictionary, he considers the old bird as never changing its plumage, but always retaining the pitch-brown head and neck; an opinion that led him into his subsequent error, and adopted from having once obtained specimens of the Guillemot in this state of plumage, in the latter part of January, upon the southern coast of England. That such a specimen should have been met with at this season, is no more than might naturally be expected, and what has also occurred to myself; as the assumption of the nuptial dress must always be dependent upon the time at which the bird had completed the duties of reproduction in the preceding season, and undergone the moult that immediately follows. This, from my own observations, frequently takes place as early as the end of June, or the beginning of July, and in such cases the other change will of course be comparatively early. I am, therefore, inclined to think, that what MONTAGU has described as the *young* of the Foolish Guillemot, was in fact an *old bird*, having acquired at an early period the white throat or winter plumage; as I possess at present a specimen (certainly an adult), that agrees with his in almost every respect, and the wings of which are nearly perfect, having only lost one or two of the quill-feathers. That a great proportion of the birds met with in the state of the supposed Lesser Guillemot, should be of inferior size, and deficient as to the perfect development of the bill and its terminal notches, is not extraordinary, and only in accordance with our observations on other species; but at the same time many individuals are also found in this plumage, with all the characteristics of the old Guillemot, both as to size, form, and length of bill, &c., particularly amongst that body that winters in the friths and sheltered bays of Scotland; and I have now in my collection specimens of the adult bird, in the

garb of MONTAGU's lesser species, that were taken upon our own coast. Another reason advanced by him for considering them distinct, is the abundance in which they are found in the white-throated state upon the coast of Scotland, during the winter, compared with their rarity upon the English coast; observing, at the same time, that the numerous colonies which make the English shores their summer or polar retreat, depart, after obeying the dictates of nature, to more southern climates. Now, this in fact is only consistent with the laws of migration, the birds that winter in Scotland being the summer inhabitants of much higher latitudes, to which they again retire upon the approach of spring, when they are succeeded by those which had migrated farther to the southward in the autumn of the preceding year. It may, indeed, appear striking, that they should not extend their migration in equal numbers along the English coast, but sufficient inducement for limiting their flight, will, I think, be found in a comparative view of the two countries. Scotland is deeply indented by its friths, salt-water lochs and bays, all of which abound with the herring species, the principal food of the Guillemot, and to be met with even in the depth of winter; and these are the situations it inhabits. The English coast, on the contrary, possesses no such attractions during winter for this piscivorous bird, as the herrings and sprats, which through the spring and summer approached the coast, then retire to the deeper parts of the ocean, where, in all probability, they are almost beyond the reach of these and other diving birds. Our English summer visitants retire to the Mediterranean, to the coasts of Italy, Sicily, &c. where they find an ample supply of even richer species of their favourite fish, as the Anchovy and Sardine. It may also be observed, that among the myriads that breed in the northern isles of Scotland, and still higher latitudes, none have been found during the period of incubation, or immediately preceding it, in the plumage assigned to the Lesser Guillemot; but all are distinguished by the pitch-coloured head and neck, the appropriate livery of the Foolish Guil-

lemot of our more southern coasts, and of which they display all the essential characters. MONTAGU's error, therefore, with respect to this bird, and also the Razor Bill, is to be entirely attributed to his want of information regarding the change that takes place in the adults immediately after incubation. The Guillemot is of a squat and thick shape, and of great weight, in proportion to its dimensions. It swims with much buoyancy, and is an excellent diver, in which occupation the greater part of its existence is passed. It shews but little apprehension of danger, frequently admitting the approach of a boat within oar's length, from whence it has evidently obtained its trivial name. On account of the shortness of its wings, it rises with difficulty from the surface of the water, along which it skims for a short distance, but at a rapid rate, in consequence of the quickly-repeated strokes of its pinions. During the breeding season it is generally compelled to make a circuitous flight before it can attain a sufficient elevation to reach the ledge of the rock selected for that purpose.

PLATE 79. represents the Adult Bird, in the summer or breeding plumage.

Head, throat, and upper part of the neck, pitchy black; the feathers being small and very close set. From the posterior angle of the eye is a streak or line formed by the division of the feathers. Dorsal plumage greyish-black; in some tinged with brown. Tips of the secondaries, and the under plumage, white. Flanks streaked with blackish-grey. Legs brownish-black. Bill black; in length from the forehead to its tip one inch and three quarters. Inside of the mouth fine saffron-yellow.

Throat, and sides of the neck, white; with a dark streak behind the eye. Crown of the head, nape and back part of the neck, greyish-black. In other respects the same as in summer.

General
description.
Adult bird.
Summer
plumage.

Winter
plumage.

The bill of the younger birds is shorter, and the notch at the tip not so well defined. They are also generally inferior in size.

Young. Fig. 2. represents the young when about a week old.

BLACK GUILLEMOT.

URIA GRYLLE, Lath.

PLATE LXXX.

Uria Grylle, Lath. Ind. Orn. 2. 797. sp. 2.—Faun. Amer. Boreal 2. 478. No. 237.

Colymbus Grylle, Linn. Syst. 1. 220. 1.—*Gmel.* Syst. 1. 584.

Uria scapularis, Steph. Shaw's Zool. 12. 250. pl. 64.

Cephus Grylle, Flem. Br. Anim. 134. No. 215.

Uria minor nigra, Columba Greenlandica, Briss. Orn. 6. 76. 3.—*Raii* Syn. 121. 6.—*Will.* 245.

Le Petit Guillemot noir, *Buff.* Ois. 9. 354.

Guillemot à miroir blanc, *Temm.* Man. d'Ornith. 2. 925.—*Lesson*, Man. d'Orn. 2. 361.

Der Schwarze Lumme, *Bechst.* Naturg. Deut. 4. 586.—*Meyer*, Tasschenb. Deut. 2. 446.

Greenland Dove, or Sea Turtle, *Albin's* Birds, 2. t. 80.—*Will.* (Angl.) 326. t. 98.

Black Guillemot, *Penn.* Br. Zool. 2. 521. No. 236.—*Arct.* Zool. 2. 437.—

Lath. Syn. 6. 332. 3.—*Id.* Sup. 2. 265.—*Lewin's* Br. Birds, 6. pl. 221.—

Mont. Ornith. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826, 2. pt. 170.

—*Steph.* Shaw's Zool. 12. 250. pl. 64.—Faun. Amer. Boreal 2. 498.

No. 237.—*Low's* Faun. Orcad. 104.

Black Scraber, *Flem.* Br. Anim. 1. 134. No. 215.

Guillemot, *Rennie's* Mont. Ornith. Dict. 233.

Uria minor striata, Briss. 6. 78. 4.

Uria Balthica, et Grylloides, Brunn. Nos. 114. 115. et 116.

Uria lacteola, Lath. Ind. Orn. 2. 798. sp. 3.

Colymbus lacteolus, Gmel. Syst. 1. 583.

Spotted Greenland Dove, *Edwards'* Glean. pl. 50.

Spotted Guillemot, *Penn.* Br. Zool. 2. pl. 83. No. 236.—*Lath.* Syn. 6. 334.

Mont. Orn. Dict.—*Bewick's* Br. Birds, ed. 1826, 172.

White Guillemot, *Lath.* Syn. 6. 335.

PROVINCIAL.—Greenland Dove, Sea Turtle, Scraber, Toist, Taiste, Puffinet.

Young and
Old, in
Winter
plumage.

FROM the short description given by CUVIER of his genus *Cephus*, in the "Regne Animal," it is evident that the *Rotche*, or Little Auk of some of our writers (*Alca Alle*, Lath.), is there considered to be its typical representative, and not the Black

Guillemot. And this appears still more evident from the note at the bottom of the same page, in which (after advert- ing to the figures of the Lesser and Spotted Guillemots in the second volume of PENNANT's British Zoology, Plate 83.) he observes, " Ces sont des Guillemots proprement dits ; au contraire l'Alca Alle, Penn. Br. Zool. 2. pl. 82. f. 1, et Albin 1. pl. 85, *appartient aux Cephus*." Dr FLEMING, how- ever, has appropriated this generic term to the Black Guille- mot, making the distinction between it and *Uria* to consist in the want of a terminal notch in the upper mandible ; but as this character does not appear to be constant, having seen some specimens of the present bird with the notch, though not so fully developed as in the Foolish Guillemot, I have retained it in the situation where it was originally placed by Dr LATHAM. In the northern parts of Scotland and its Isles this is a numerous species, but becomes of rarer occur- rence as we approach the English coast, where indeed it is but occasionally met with ; and although MONTAGU has men- tioned it as resorting to the Farn Islands, and Mr STEPHENS has repeated the same, I can safely assert that this has not been the case for the last twenty-five or thirty years, having been in the habit of visiting this group of islands almost an- nually during that period ; and, had it been a visitant, I feel confident it could not have escaped my observation, or that of the keepers of the light-house who reside there. It cer- tainly breeds, though in a very small proportion, upon the Isle of May, at the mouth of the Frith of Forth, but is not found in large congregated numbers till we reach the vicinity of the Orkney and Shetland Isles. In these parts it is resi- dent throughout the year, never migrating to the same ex- tent as the preceding species and the Razor-bill Auk. Its habits are very similar to those of its congeners, and it is rarely seen upon land, except for the purposes of incubation. It breeds in the crevices or on the ledges of rocks, from whence it can readily drop into the water or get upon wing, and lays a single egg, of a greyish white, speckled with

Incuba-
tion, &c.

black and ash-grey. Its food consists of fish, crustaceæ, &c. but authors have not mentioned any particular kind that it prefers. The Black Guillemot is widely distributed in the Arctic Circle, and is met with in very high latitudes, inhabiting all the icy regions of Europe and North America. In the latter Continent, Dr RICHARDSON says, "it abounds in the Arctic seas and straits from Melville Island down to Hudson's Bay, and remains, though in diminished numbers, during winter in the pools of open water, which occur even in *high latitudes* among the floes of ice." I may here remark, that Dr RENNIE has inadvertently quoted the *Uria minor* of STEPHENS for this species, but which synonyme the General Zoology refers to the young and winter plumage of the Foolish Guillemot. In that work the Black Guillemot is described by the name of *Uria scapularis*.

PLATE 80. Fig. 1. represents this bird of the natural size, and in the summer plumage.

General
description.

Summer
Plumage.

Head, neck, dorsal and under plumage, of a sooty or brownish-black; the mantle and lower part of the back having a greenish gloss. Lesser wing-coverts next to the ridge of the wings, and the quill-feathers, velvet-black. Middle and greater coverts pure white. Bill black; one inch and a quarter long from the forehead to the tip. Inside of the gape vermilion-red. Legs and toes scarlet-red.

Fig. 2. is a bird of the former season, just commencing the vernal moult, from a specimen killed on the Northumbrian coast, towards the close of winter.

Winter
Plumage.

Crown of the head and nape of the neck black, the feathers being bordered with white. Neck, chin, and under plumage, white; intermixed with black, thus indicating the change that has commenced. Back and scapulars black, with the tips of the feathers white. Lower part of the rump white. Speculum, or white space up-

on the wing, spotted with brownish-black. Bill black. Legs and toes red.

In winter, the old birds have the cheeks, throat, and all the under plumage, pure white. The crown of the head and the dorsal plumage black.

GENUS MERGULUS, *RAY* & *VIEILL.* ROTCHE.

GENERIC CHARACTERS.

BILL shorter than the head, thick, broader than high at the base; culmen arched; upper mandible indistinctly grooved; under one with the symphysis very short and oblique; tips of both mandibles notched. Commissure arched.

Nostrils lateral, round, situated at the base of the bill, and partly covered by the small feathers of the antixæ.

Wings and tail short.

Legs abdominal, short; feet of three toes, all directed forwards, and united by a membrane.

In consequence of the distinct character exhibited in the form of the bill of the only known species of this genus (intermediate between the genera Guillemot and Auk, and with both of which it has been at different times classed, according to the views taken of its prevailing affinities by different systematists), it has latterly been established by *VIEILLLOT* as a type, and he has given to the genus the title of *Mergulus*, the name it before had from our countryman *RAY*, and which has also been adopted by *Dr FLEMING*, *Mr STEPHENS*, and others. It is a bird of the ocean, and a native of the Arctic Regions; and its habits in many respects resemble those of the Guillemots, Auks, and Stariks.

COMMON ROTCHÉ.

MERGULUS MELANOLEUCOS, Ray.

PLATE LXXXI.

Mergulus melanoleucos, *Haii* Syn. 125. A.—*Steph.* Shaw's Zool. 13. 34. pl. 3.—*Flem.* Br. Anim. 1. 135. No. 216.

Alca Alce, *Linn.* Syst. 1. 211. 5.—*Gmel.* Syst. 1. 554.—*Lath.* Ind. Orn. 2. 795. sp. 10.

Uria minor, *Briss.* Orn. 6. 73. 2.

Uria Alce, *Temm.* Man. d'Ornith. 2. 928.—Faun. Amer. Boreal. 2. 497. No. 238.

Le Petit Guillemot femelle, *Buff.* Pl. Enl. 917, but not his description.

Guillemot nain, *Temm.* Man. d'Orn. 2. 928.—*Lesson*, Man. d'Orn. 2. 360.

Der Kleine Alk, *Bechst.* Naturg. Deut. 4. 732.—*Meyer*, Tasschenb. Deut. 2. 443.

Small Black and White Diver, *Will.* (Angl.) 343.—*Edwards'* Glean. t. 91.

Little Auk, *Br. Zool.* 2. 517. No. 233.—*Arct. Zool.* 2. 429.—*Lath.* Syn. 5. 327. 11.—*Levin's* Br. Birds, 6. 223.—*Mont.* Orn. Dict. & Sup.—*Bewick's*

Br. Birds, ed. 1826. pt. 408.—*Wils.* Amer. Orn. 9. 94. pl. 74. f. 5.—*Low's* Faun. Orcad. 103.

Little Guillemot, *Faun. Amer. Boreal.* 4. 479 No. 238.

Common Sea Dove, *Shaw's* Zool. 13. 34. pl. 3.

Common Rotché, *Flem.* Br. Anim. 1. 135. No. 216.

IN the various accounts of voyages in the northern seas, this bird is mentioned as of very frequent occurrence, under the name of the *Rotché*; which appellation I have therefore adopted, in imitation of Dr FLEMING, as the one by which it is most generally known. It extends to very high latitudes, and abounds during summer in all the open spots of water amongst the floes and ice-fields of those desolate regions; where, however, it meets with a never-failing supply of the crustaceous and other small marine animals on which it subsists. Around the coasts of Greenland and Spitzbergen it is very numerous during the breeding season, depositing its solitary egg, of a pale bluish-green colour, upon the ledges of precipitous rocks, from whence it can easily either throw itself into the water, or take wing. It is also to be found very plentifully during the summer in the arctic seas of the American Continent, but migrates in winter to the

Periodical
visitant.

Food.

Incuba-
tion, &c.

coasts of the United States. With us it is only recognised as a winter visitant, although a few may probably breed upon the extreme rocky islands of the north of Scotland. Its occurrence in England is rare, and the greater number of specimens hitherto obtained have been found after severe storms, in a dead or dying state. It scarcely ever quits the ocean, except for the purpose of reproduction; swimming and diving there with as much facility as the rest of the *Alcedæ*. Its flight is rapid, but at a low elevation; its wings being small and narrow in proportion to the weight of the body. In its affinities it stands nearly intermediate between the Auks and the Guillemots; the bill being much shorter, stronger, and more convex than that of the latter, and not having the compressed shape, and distinct transverse lateral furrows which particularize that of the Auks. Like the last mentioned genera, it is subject to a double moult, and that indicative of the breeding season is analogous to the change ascertained to take place in the Foolish Guillemot and the Razor-Bill.

PLATE 81. Fig. 1. represents this bird of the natural size, in the summer plumage.

Crown of the head, nape of the neck, dorsal plumage, wings and tail, glossy velvet-black. Sides of the head, throat, neck, and upper part of the breast, pitch-black. Side-edges of the long scapulars and tips of the secondaries white. Under plumage white. The flanks having the inner webs of the feathers black. Legs and toes blackish-brown, with a tinge of red. Bill black; from the forehead to the tip five-eighths of an inch long, thick, and convex; with both the mandibles notched, and with two faint transverse furrows upon the upper one.

General
description.
Summer
Plumage.

Fig. 2. The bird in winter plumage; which is common to both old and young, and differs from that of the summer in having the throat, the fore part and sides of the neck,

Winter
Plumage.

white, mixed more or less with black. In other respects there is little or no difference.

GENUS ALCA, LINN. AUK.

GENERIC CHARACTERS.

BILL. shorter than the head, nearly as deep as long, much compressed, cultrated; with both mandibles laterally sulcated; tip of the mandible strongly arched, and hooked; that of the under one obliquely truncated; angle deep, and ascending. Nostrils near the lower edge, and immediately behind the horny part of the bill; nearly hidden by the feathers of the *antiæ*, or projecting side-angles of the forehead. Head narrow, and attenuated in front; with the *antiæ* reaching as far as the nostrils.

Wings short and narrow; and in one species unequal to the purpose of flight. Tail short; of twelve or sixteen feathers.

Legs short, situated at the posterior part of the body, and having the tibiæ hidden within the integuments of the abdomen. Feet with three toes, all directed forwards, and webbed; outer toe longer than the inner, and nearly equal to the middle one. Claws hooked, and sharp; the middle one the largest and longest. Front of the tarsus and the toes scutellated.

In this genus the bill becomes strongly compressed and hooked, losing that character of breadth at the base possessed by *Mergulus*, and by TEMMINCK's genus *Phaleris*. The lateral furrows of the bill are also more distinct, in which respect these birds approach to the succeeding genus *Fratercula* (Puffin). Their wings are very short and narrow; in one species, indeed, the Great Auk (*Alca impennis*), they are so imperfectly developed as to be totally unfit for

flight,—a character which indicates a close connexion with the true Penguins. They are strictly oceanic birds, and never leave the water, but for reproduction; and in powers of swimming and diving they are not inferior to any of the present family. They are (like the Guillemots) subject to a double moult, and the change is perfectly of a similar character to that which takes place in the last described bird.

GREAT AUK.

ALCA IMPENNIS, Linn.

PLATE LXXXII.

Alca impennis, *Linn. Syst.* 1. 210. 3.—*Gmel. Syst.* 1. 550.—*Lath. Ind. Orn.* 2. 791. sp. 1.—*Shaw's Zool.* 13. 51. pl. 6.—*Flem. Brit. Anim.* 1. 129. No. 203.

Alca major, *Briss. Orn.* 6. 85. pl. 7.

Penguin, *Raii Syn.* 118.—*Will.* 242. t. 65.

Le Grand Pingouin, *Buff. Ois.* 9. 393. t. 29.—*Id. Pl. Enl.* 367.

Pingouin Brachiptère, *Temm. Man. d'Ornith.* 2. 939.

Great Auk, *Penn. Br. Zool.* 2. 507. No. 229. pl. 81.—*Arct. Zool.* 2. 424.

—*Lath. Syn.* 5. 311. 1.—*Levin's Br. Birds*, 6. pl. 222.—*Mont. Orn. Dict.*

—*Bewick's Br. Birds*, ed. 1826, 2. pt. 397.—*Shaw's Zool.* 13. 51. pl. 6.—

Flem. Br. Anim. 1. 127. No. 203.

THE visits of this curious species to the northern islands of Scotland appear to be very rare, many years frequently elapsing without a single individual being seen. Since the account given by Dr FLEMING of a bird taken alive at St Kilda, in 1822, and the one chased by Mr BULLOCK, during his tour to the northern isles, I am not aware of its having been met with, although many excursions connected with ornithological pursuits have been at different times made into those remote districts of the kingdom. It is found throughout the Arctic Seas in very high latitudes, although not in any considerable numbers, or congregated like the Razor-bill, Guillemot, and some others. It is frequent about the coasts of Norway and Iceland, and still more so around the icy shores of Greenland and Spitzbergen, where it breeds

Very rare
visitant.

Incuba-
tion, &c.

upon the rocks above the reach of the highest tides, or oftener in deep clefts, as more secure from observation. Its egg is described as being equal in size to that of the Swan, and of a yellowish-white, blotched and lined with brownish-black. The wings of this species (though possessing the usual number of quill-feathers, and being in other respects of perfect formation) are so short as to leave it totally incapable of flight: this inability seems, however, to be amply compensated by their power, as fins, to aid its progress beneath the surface, which, according to Mr BULLOCK, who ineffectually chased one of these birds in a *six-oared boat*, is of almost incredible swiftness. PENNANT remarks, that the Great Auk has been observed by seamen seldom to wander beyond soundings, and they are in the habit of taking their measures accordingly, conjecturing from its presence that land is not far distant. We might thus account for its occasional appearance only on the north of Scotland, as any migration from its nearest known haunt must necessarily be effected by swimming, and part of the channel between these points may be of a depth beyond what it likes to pass over. It undergoes a double moult, similar to that of the Razor-bill; and this interesting change was witnessed by Dr FLEMING in the individual before mentioned, which in the course of a few *days* lost the brownish-black that clothed the throat and sides of the neck when first caught, and acquired a set of white feathers in their place. Its powers of swimming and diving have been shewn to be very great, and Dr FLEMING further relates, that his bird, even with a long and heavy cord attached to its leg, swam under water with extraordinary speed.—It feeds principally on fish (though other writers add marine vegetables as forming part of its diet), and is said to be particularly fond of the Lump-fish (*Cyclopterus lumpus*), which is found in the vicinity of rocky coasts and islands throughout the southern seas.

Food.

PLATE 82. represents this bird, of a reduced size, and in the

summer plumage, from a specimen in the British Museum.

Length about three feet. Bill black; four inches and a quarter long; the mandibles having transverse oblique furrows. In front and around the eyes is a large patch of white. The rest of the head, the neck, and upper plumage, deep pitch-black. Tips of the secondaries white. Greater quills black; the longest not exceeding four inches. Under plumage white. Legs having the tarsi very short; and the feet blackish-brown.

In autumn, the cheeks, throat, fore part and sides of the neck, become white; and this plumage is retained till the advance of the following spring.

General description.

Summer plumage.

Winter plumage.

RAZOR-BILL AUK.

ALCA TORDA, Linn.

PLATE LXXXIII.

Alca Torda, Linn. 1. 210. 1.—*Gmel. Syst.* 1. 551.—*Brisson. Orn.* 6. 892. t. 8. f. 1.

—*Lath. Ind. Orn.* 2. 793. sp. 5.—*Flem. Br. Anim.* 1. 130. No. 202.

Utamania Torda, Leach in *Cat. Br. Mus.* 42.—*Steph. Shaw's Zool.* 13. 27.

Alca Hoieri, Rasi Syn. 119. A. 3.—*Will.* 243. t. 64. 65.

Le Pingouin macrotère, Temm. Man. d'Orn. 2. 936.—*Lesson's Man. d'Orn.* 2. 365.

Tord Alk, Bechst. Naturg. Deut. 4. 711.—*Meyer, Tasschenb. Deut.* 2. 349.

Razor-bill Auk, or Murre, Penn. Br. Zool. 2. 509. No. 230. pl. 82.—*Edward, Glean.* pl. 358. f. 2.—*Lath. Syn.* 5. 319.—*Id. Sup.* 264.—*Lewin's*

Br. Birds, 6. pl. 224.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, 2. pt. 399.—*Flem. Br. Anim.* 1. 130. No. 204.

Common Razor-bill, Shaw's Zool. 13. 27.

Alca Pica, Linn. Syst. 1. 210. 2.—*Gmel. Syst.* 1. 551.

Utamania Pica, Steph. Shaw's Zool. 13. 30.—*Leach, Cat. Br. Mus.* 42.

Alca minor, Brisson 6. 923, t. 8. f. 2.

Mergus Bellonii, Utamania, Rasi Syn. 119. 2.—*Will.* 243. t. 64.

Le l'etit Pingouin, Buff. Ois. 9. 396.

Black-billed Auk, Penn. Br. Zool. 2. 511. No. 231.—*Arct. Zool.* 2. 426.—

Lath. Syn. 5. 320. 6.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, 2. pt. 402.

White-throated Razor-bill, Steph. Shaw's Zool. 13. 30.

PROVINCIAL—Auk, Murre, Marrot, Gurfel

Young and
Old in
Winter
plumage.

In this species the wings are sufficiently developed for the purpose of flight, being nearly of the same proportionate

Periodical
visitant.

length as those of the Guillemot, and reaching, when closed, as far as the rump. Like that bird, its flight is rapid, and sustained by very quickly repeated strokes of the pinions, but (unless when making an effort to reach the ledge of rock on which it breeds) always at a low elevation, just clearing even the surface of the water. It is common upon the English coast during the summer in its black-headed or nuptial dress, congregating in the same localities, and frequently breeding in company with the Guillemot, which it resembles in general appearance, and also in the change of plumage it undergoes. By many writers, the young as well as the old birds, in the winter clothing, have been described as a distinct species, under the title of *Alca Pica*; and as MONTAGU decidedly favours this opinion in his Ornithological Dictionary, doubts are still entertained on the subject, although the subsequent investigations of TEMMINCK, FLEMING, and other distinguished practical ornithologists, have decidedly proved the fallacy of the opinion. The same suppositions that led MONTAGU astray with regard to the Guillemot, appear to have operated in the case of the Razor-bill, viz. that the *old birds* of both species always retained the black head and neck, and that the English and the southern part of the Scottish coast were the *limit* of the polar migration of these distinct species; for it is upon these assumptions that his arguments in favour of the separation of each species into two are founded. In the article "Auk, razor-billed," in the Supplement to his Ornithological Dictionary, he also seems to have repeated the mistake that I have previously adverted to under the Guillemot, viz. of describing as a young bird what appears to have been in reality an adult in a state of moult; his description exactly agreeing with specimens I have seen in that state; and at which period they are sometimes unable to fly, from casting their quill-feathers. But it generally happens that, before this change takes place, they have left our shores for more open parts of the ocean, or gone to more southern districts. In winter their place is

supplied in Scotland, and sparingly also along the English coast, from the colonies that breed in higher latitudes; and which birds, during the months of November, December, and January, are met with in the plumage of the supposed *Alca Pica*. Upon the approach of spring these return to the north, where they renew the *black* upon the head and neck, in *which state* all the *breeding birds* are found, and are then perfectly similar to those which, also returning from the south, make our shores their summer quarters. In disposition they are rather more wary than the Guillemots, and do not always admit of so near an approach. They dive and swim equally well with the latter, and their food is of the same nature, consisting principally of sprats, and other species of the genus *Clupea*. A few breed every year on the Fern Islands in company with the Guillemots, and, as the Food. egg is very similar in size, shape and colour, it is not easily Incubation, &c. to be distinguished. The bill of the young bird when it first quits the rock is narrow, and shews scarcely any appearance of the transverse furrows which are so strongly marked in the old one. The white streaks that pass from the base of the bill to each eye are also faintly indicated, and do not acquire their purity of colour and well-defined form until after it has attained the spring or black-head plumage.

PLATE 83. Fig. 1. Represents the bird of the natural size, and in the black-headed plumage.

Bill very hooked at the tip; the sides transversely furrowed; the middle furrow white. Streaks from the base of the upper mandible to the eyes pure white. Head, and upper part of the neck, brownish-black, becoming browner in tint as the summer advances. Upper plumage black. The secondary quills tipped with white, and forming a bar across the wings. Under plumage pure white. Tail black, wedge-shaped and pointed. Legs and toes black.

General description.

Summer plumage.

Fig. 2. In the winter plumage.Winter
plumage.

The space between the bill and eyes, crown of the head, and nape of the neck, brownish-black, with a slight cinereous tinge. The white streak on each side from bill to eye, not so distinct as in the summer plumage, and in young birds scarcely visible. Ear-coverts, cheeks, sides of the neck and under plumage, white. Upper plumage black. Wings as in the summer.

Young.

In the young of the year the bill is black, and the furrows very slight, acquiring their marked character only as the bird gains age.

GENUS FRATERCULA, BRISS. PUFFIN.**GENERIC CHARACTERS.**

BILL shorter than the head, arched, deeper than long, the base of it occupying the whole length of the face, very much compressed, having both mandibles transversely furrowed, and with their tips notched. Lower mandible entire, without *Gnathidiæ*; the keel projecting beyond the line of the chin; angle ascending. Corners of the mouth having a star-shaped dilatable skin. Margin of the base of the upper mandible thickened or swollen. Nostrils basal, placed close to the lower edge of the upper mandible in the form of a narrow slit.

Wings short, narrow, and acuminate. Tail very short, consisting of sixteen feathers.

Legs abdominal, short; the tarsi only free. Feet of three toes, palmated; outer toe nearly as long as the middle, and longer than the inner one. Claws hooked; that of the inner toe the most so, and very sharp; middle claw the longest.

In this genus the depth and lateral compression of the bill is carried to a still greater extent than in the genus *Alca*, with which its members were associated by many of the earlier systematists. Its construction is very different, the lower

mandible being without *Gnathidia*, and formed, as it were, of a single plate doubled together, the ridge or culmen, in the adults, presenting no appearance of suture. The base of the upper mandible is also on the same line with the forehead, the latter having no antiæ; and the nostrils are situated on the lower part of the smooth space of the beak, immediately in front of the basilar ridge. These birds are inhabitants of the arctic circle, penetrating to rather high latitudes; and in their habits and mode of life, bearing a strong resemblance to the preceding genera. They breed in burrows, or under hollow stones, and lay one egg. Nearly allied to this genus, and intermediate between it and the Auks, is the genus *Phalaris* of TEMMINCK, containing several species which were also formerly included in the Linnean genus *Alca*.

COMMON PUFFIN.

FRATERCULA ARCTICA, Steph.

PLATE LXXXIII.*

Fratercula arctica, Steph. Shaw's Zool. 13. 3^d. pl. 4. fig. 1.—*Flem. Br. Anim.* 1. 130. No. 205.

Alca arctica, Linn. Syst. 1. 211.—*Gmel. Syst.* 1. 549.—*Lath. Ind. Ornith.* 2. 792. sp. 3.

Alca labradora, *Gmel. Syst.* 1. 550.—*Lath. Ind. Ornith.* 2. 793. sp. 4.

Mormon *Fratercula*, Temm. Man. d'Ornith. 2. 933.

Fratercula, Briss. 6. 81. t. 6. f. 2.

Le Macareux, Buff. Ois. 9. 358. 26.

Macareux moine, Temm. Man. d'Ornith. 2. 933.—Lesson, Man. d'Ornith. 2. 364.

Der arktische Alk, Bechst. Naturg. Deut. 4. 723.

Graukehliger Alk, Meyer, Tasschenb. 2. 442.

Labrador Auk, Lath. Syn. 5. 318.—*Penn. Arct. Zool.* 2. 428.

Puffin, *Penn. Br. Zool.* 2. 512. No. 232.—*Arct. Zool.* 2. 427.—*Albin's Birds*, 2. pl. 78. 79.—*Edwards' Glean.* pl. 358. f. 1.—*Lath. Syn.* 5. 314.

—*Levin's Br. Birds*, 6. pl. 225.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, 2. p. t. 404.—*Pult. Cat. Dorset.* 17.—*Low's Faun. Orcad.* 101.

Common Coulter-neb, *Flem. Br. Anim.* 1. 130. No. 205.—*Rennie's Mont. Orn. Dict.* 103.

Arctic Puffin, Steph. Shaw's Zool. 13. 39.

PROVINCIAL—Pope, Mullet, Coulterneb, Gulder-head, Bottle-nose, Marrot, Sea Parrot, Tammie Norie, Tommy-nody, Tommey, Bass Cock, Ailsa Cock, Cockandy.

Periodical
visitant.

ALTHOUGH the Puffin is found in very high latitudes, and its distribution through the arctic circle is extensive, it is only known to us as a summer visitant, and that from the south, making its first appearance, in the vicinity of its breeding stations, about the middle of April, and regularly departing between the 10th and 20th of August for the southern coasts of France, Spain, and other parts of Europe, where it passes the remainder of the year. It breeds in great numbers upon Priestholm Island, off the coast of Anglesea, on the Isle of Man, and most of the islands, indeed, of the English and Scottish coasts. Many resort to the Fern Islands, selecting such as are covered with a stratum of vegetable mould; and here they dig their own burrows, from there not being any rabbits to dispossess upon the particular islets they frequent. They commence this operation about the first week in May, and the hole is generally excavated to the depth of three feet, often in a curving direction, and occasionally with two entrances. When engaged in digging, which is principally performed by the males, they are sometimes so intent upon their work, as to admit of being taken by hand, and the same may also be done during incubation. At this period I have frequently obtained specimens, by thrusting my arm into the burrow, though at the risk of receiving a severe bite from the powerful and sharp-edged bill of the old bird. At the farther end of this hole the single egg is deposited, which in size nearly equals that of a Pullet, and, as PENNANT observes, varying in form; in some instances one end being acute, and in others both equally obtuse. Its colour, when first laid, is white (MONTAGU adds, sometimes spotted with pale cinereous, though I do not recollect having met with such), but it soon becomes soiled and dirty from its immediate contact with the earth, no materials being collected for a nest at the end of the burrow. The young are hatched after a month's incubation, and are then covered with a long blackish down above, which gradually gives place to the feathered plumage, so that, at the end of

Incuba-
tion, &c.

a month or five weeks, they are able to quit the burrow, and follow their parents to the open sea. Soon after this time, or about the second week in August, the whole leave our coasts, commencing their equatorial migration. At an early age, the bill of this bird is small and narrow, scarcely exceeding that of the young Razor-bill at the same period of life; and not till after the second year does this member acquire its full development, both as to depth, colour, and its transverse furrows. In SHAW's General Zoology, Mr STEPHENS has given a figure, entitled the *Northern Puffin*, from a specimen ticketed *Fratercula glacialis* by Dr LEACH, in the collection of the British Museum, that was obtained during Captain Ross's expedition to the northern regions, and which TEMMINCK also seems to think may be a distinct species. Now, as the difference between this and our own is stated to be in the superior size of the bill (the plumage being precisely similar), I feel some hesitation in allowing it this rank, as I have found the bills of different individuals on our coasts to vary much in depth and curvature, which circumstance may be observed in the present plate, containing the figures of two birds killed off the Fern Islands; in the one, which was taken in its burrow, the bill measures one inch and a-half in depth, in the other scarcely one inch. In length they are nearly equal, by which the mandibles of the larger-billed bird are made to appear much more convex than the other; and in the former, the keel of the lower mandible is also very strong and arched; in fact, this specimen seems to possess the precise characters and relative proportion of bill of the *Northern Puffin*, figured by Mr STEPHENS. I may here add, that I have often obtained specimens with the bill of an intermediate size, which leads me to conclude, that this member does not obtain its full strength and dimensions till after the second or third year. On the water the Puffin is a more wary bird than the Guillemot, generally taking wing or diving before a boat can approach within range of gun-shot. It flies rapidly, but not to any

Food. great distance at once, being obliged to exert its short and narrow wings to their utmost power for the support of its body, which is heavy in proportion to its dimensions. It feeds principally upon young sprats, though other small fish and crustaceæ are occasionally devoured. In diving it displays equal expertness with the others of the present family. It is a bird of neat appearance, and its bill, though large, is richly coloured, and contrasts well with the black and white of its plumage *. From the shape of the bill, and corresponding bulk of the head, it seems to have obtained the greater part of the provincial synonyms above quoted.

PLATE 88. * Fig. 1. Represents an old male bird of the natural size.

**General
descrip-
tion.**

Male Bird.

Crown of the head, upper parts of the body, and collar round the neck, glossy black. Cheeks and throat pearl-grey, darkest towards the base of the lower mandible. Under plumage pure white. Legs orange-red. Bill one inch and a half in depth, bluish-grey at the base, the middle part orange-red, and the tip bright red; the upper mandible having three, and the lower one two, distinct furrows. The horny appendages to the eyelids pearl-grey; that upon the upper lid triangular, on the lower lid oblong.

Fig. 2. Is supposed to be a bird of a year old.

Bill scarcely one inch in depth; and with the furrows not so distinctly marked as in Fig. 1. Two in this state, exactly alike as to their bills and legs, were killed near the Fern Islands in June 1827.

Young. **Fig. 3.** Is the young bird of a week old, covered with a long sooty black down.

* White varieties occasionally occur. Mr NEILL informs me, that he lately saw one alive in the possession of a gentleman who had obtained it when young the preceding year, with only two or three black feathers upon the back, the rest of the plumage being pure white.

FAMILY IV.—PELECANIDÆ.

THE Pelecanidæ, which form the fourth and an aberrant division of the *Natatores*, are distinguished from the preceding and other families, by the peculiar form of their feet, which consist of four toes, all united by a continuous membrane, the hind toe being articulated upon the inner part of the tarsus, and standing at an angle with it, or rather directed to the front. The bill, in the various genera, is strong in form, and commonly longer than the head : in many the tip is bent downwards, and armed with a strong hook ; in others (where a nearer approach is made to the members of neighbouring families) it is strait and sharp-pointed, as exemplified in the genus *Phaëton*, which closely connects the present with the succeeding family of the *Laridæ*, through the intervention of the Terns. In an aberrant group of this family, we find also an obvious approximation, both in external appearance and habits, to the *Vulturidæ* and *Falconidæ*, thus forming the link between the raptorial and natatorial orders. Such are the birds belonging to the genus *Tachypetes*, represented by the *Frigate Birds*, whose form and habits assimilate them so much to the larger rapacious kind, as to have induced LINNÆUS to bestow the specific title of *Aquilus* on the only species known by him. In this genus the wings are extraordinarily developed, and are equal to the most distant and protracted flights ; the tail is also long and forked, and their legs are very short, with the tarsi feathered, like many of the raptorial order. Their feet are small, in comparison with others of the family, and the membranes connecting the toes are so much curtailed, as to be inadequate to the task of swimming. They live almost entirely in the air, and take their prey upon the wing, not by precipitating themselves upon it in the water, like the Gannets, Terns,

&c., but by pouncing upon the flying fish as they spring from the sea, or by harassing other aquatic birds till they disgorge their prey, which is caught by these ere it reaches the surface of the water. In the genera that approach nearer in their habits to the typical swimmers, we find a corresponding modification of form; thus the members of the genus Cormorant (well known for their aquatic powers) have the body long and flattened, and the wings, although equal to vigorous flight, much shorter than the genera above mentioned, or those which connect the Pelecanidæ with the succeeding family of the Laridæ. Their legs, also, are placed nearer to the extremity of the body, and the tibiæ have not the same freedom of action, in consequence of which, they are compelled both to sit and walk almost in a perpendicular position. All these prey beneath the surface of the water, being endowed with the power of diving to an extent little short of the typical *Alcadæ* and *Colymbidæ*. In Britain we possess two forms of this family, viz. genus *Phalacrocorax* and genus *Sula*.

GENUS PHALACROCORAX, BRISS. CORMORANT.

GENERIC CHARACTERS.

BILL generally longer than the head, strait, strong, hard, slightly compressed; having the upper mandible rounded above, terminating in a powerful hook, and furrowed laterally from the base, as far as the dertrum or tip. Lower mandible with the terminating nail distinct, its tip compressed and truncated. Tomia of the lower mandible in-tracted, and covered by those of the upper one. Nostrils basal, concealed. Face naked. Swallow and throat dilatable.

Wings of mean length, having the first quill-feather shorter

than the second, which is the longest in the wing. Tail rounded, of mean length, stiff and elastic.

Legs abdominal, short, strong. Feet of four toes, all connected by a membrane. Outer toe the longest, the others gradually shortening to the hinder one. Tarsi reticulated. The upper part of the toes scutellated.

In no genus of the earlier writers has the necessity of division been more apparent than in *Pelecanus*, which, in addition to its typical representatives, contained the Gannets and Cormorants, both of them groups distinguished by prominent characters, in habits as well as in form. This separation has been effected by CUVIER, TEMMINCK, MEYER, and other eminent ornithologists, under various generic titles; but as priority of application is entitled to the preference, I have retained that of *Phalacrocorax*, originally given to the present genus by BRISSON, and adopted by Dr FLEMING and some others. In form the Cormorants approach nearer to the natatorial groups already described, than the rest of this family, and (like the *Alcedæ* and *Colymbidæ*) their legs are placed far backwards, having the tibiæ only partially free. Their wings are also much shorter than in the succeeding genera, indicating a difference in habits and mode of living. They are excellent divers, pursuing their course beneath the surface with great celerity, and thus securing their prey, which consists entirely of fish. In swimming, the body is deeply immersed, scarcely more than the head and upper part of the neck being visible. Upon land they sit in an erect posture, and from the partial freedom of the tibial joint, are able to walk with less difficulty than the diving birds of the preceding two families; and in which action they are also materially assisted by the support they obtain from the stiff, though elastic, feathers of the tail. They possess an unexpected power of grasping with the toes, and, in common with other members of the family, frequently not only perch, but build their nests upon trees, in which respect an affinity

to different tribes of the terrestrial orders is observable. Their flight, though heavy, is direct and strong. They are subject to a double moult, but the nuptial change is generally confined to the regions of the head and thighs. The plumage of both sexes is alike.

COMMON CORMORANT.

PHALACROCORAX CARBO, Steph. Flem.

PLATE LXXXIV.

- Phalacrocorax Carbo, Steph. Shaw's Zool. 13. 76. pl. 10.—Flem. Br. Anim. 1. 117. No. 169.*
Pelecanus Carbo, Linn. Syst. 1. 216. 3.—Gmel. Syst. 1. 573.—Lath. Ind. Orn. 2. 886. sp. 14.
Carbo cormoranus, Temm. Man. d'Ornith. 2. 894.
Corvus aquaticus, Raii Syn. 122. A.—Will. 240. pl. 63.
Phalacrocorax, Briss. 6. 511. t. 45.
Le Cormoran, Buff. Ois. 8. 310. t. 26.—Id. Pl. Enl. 927.
Grand Cormoran, Temm. Man. 2. 894.—Lesson, Man. 2. 373.
Der Schwarze Pelikan, Bechst. Naturg. Deut. 4. 750.
Cormorant or Corvorant, Will. (Angl.) 329. t. 63.—Penn. Br. Zool. 2. 608. No. 291.—Allin's Birds, 2. t. 81.—Lath. Syn. 6. 593.—Lewin's Br. Birds, 6. 263.—Mont. Ornith. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 379.—Low's Faun. Orcad. 146.
Common Cormorant, Shaw's Zool. 13. pl. 76. pl. 10.—Flem. Br. Anim. 1. 117. No. 169.
Crested Corvorant, Bewick's Br. Birds, ed. 1826, p. t. 385.

PROVINCIAL—Great Black Cormorant, Cole Goose, Skart, Brongie.

ALTHOUGH the Cormorant appears to have been always common upon our coasts, and of known extensive distribution throughout the maritime districts of the north of Europe, it is only within the last few years that the changes of plumage to which it is subject, have been perfectly investigated, and that the mistakes of earlier writers have been corrected by the observations of MONTAGU, TEMMINCK, and other eminent ornithologists. It has been described by several as a distinct species when in its summer or nuptial plumage. Some have considered this state as indicative only of the male bird, whilst others have regarded it as a common or

an accidental variety. It is now, however, well ascertained, that, on the approach of spring, *both sexes* invariably undergo the change that assimilates them to the *Crested Cormorant* of BEWICK and others, and which garb they retain till after reproduction has been effected. This I have had repeated opportunities of verifying from my own observation, and by the dissection of many specimens from a colony that annually breed at the Fern Islands on the Northumbrian coast. This bird is perhaps generally looked on with dislike, from an association of ideas produced by the extravagant descriptions of different authors, and from the prominent part it is made to perform in the sublime poem of "*Paradise Lost*." As naturalists, however, and believers in the unerring wisdom so greatly and wonderfully displayed throughout the animated creation, we are not to judge of its qualities from the exaggerations of fancy, but to consider whether its powers are not fitly and beautifully adapted to the place it is destined to fill in the great chain of the universe. Viewed in this, the only true light, we shall find much to admire, since its instincts and habits are in such perfect accordance with, and so ably support, the economy of its being. So far, indeed, from possessing the bad qualities attributed to it, it seems, from the testimony of MONTAGU *, to be endowed with a nature directly the reverse; for he states, that he found it extremely docile, of a grateful disposition, and without the smallest tincture of a savage or vindictive spirit. This character I can confirm, from having kept it in a domesticated state; and the very fact, indeed, of these birds having been trained to fish, as many of the *Falconidæ* are to fowl, is a further proof of its docility and tractable nature. Like other piscivorous birds, its digestion is rapid, and its consumption of food consequently great, but the epithet of glutton, and the accusation of unrelenting cruelty, are no more applicable to it, than to any other bird destined by its Creator to prey

* See Supplement to the Ornith. Dict., article *Cormorant*, where an interesting account of its manners is given.

on living matter. In Britain, where it is numerous and widely dispersed, the Cormorant breeds upon rocky shores and islands, selecting the *summits* of the rocks for the situation of the nest, and not (like the Green Cormorant) the clefts or ledges. In some countries it breeds upon trees, possessing, as I have before observed, the power of grasping firmly with its feet. Upon the Fern Islands, its nest is composed entirely of a mass of sea-weed, frequently heaped up to the height of two feet, in which are deposited from three to five eggs, of a pale bluish-white, with a rough surface, from the unequal deposition of the calcareous matter. The young, when first hatched, are quite naked and very ugly, the skin being of a purplish-black; this in six or seven days becomes clothed with a thick black down, but the feathered plumage is not perfected in less than five or six weeks. Instinct, that powerful substitute for reason, is nowhere more beautifully exemplified than in the young of this bird; for I have repeatedly found, that, upon being thrown into the sea, even when scarcely half-fledged, they immediately plunge beneath the surface, and endeavour to escape by diving. This they will do to a great distance, using their imperfect wings, and pursuing their submarine flight in the same manner, and with almost as much effect, as their parents. When unfledged in the nest, the young of this and the following species, if alarmed by an approach, raise the head and neck to the full stretch, at the same time gaping wide, and vibrating in a curious manner the loose skin of the neck and throat, accompanied by a constant and querulous cry. In winter, Cormorants are frequently seen in our rivers and lakes at a considerable distance from the sea, where they occasionally perch and roost in such trees as grow upon the immediate banks. They feed entirely on fish, which they obtain by active pursuit beneath the surface of the water, and having the gullet very large and dilatable, they are enabled to swallow those of considerable size. The prey is killed by being squeezed in their powerful and hooked bill, and always swallowed

Nest, &c.

Food.

head foremost ; and should the fish happen to have been awkwardly captured for this operation, it is tossed into the air, and in descending caught in a more favourable position. In swimming, the body of this bird is almost entirely submerged, the head and part of the neck only being visible. MONTAGU also observes, that when in the act of looking for its prey, it always carries the head under water, being able thus to discover it at a greater distance than if the eyes were kept above the surface, which is generally in some degree agitated. It may frequently be observed standing upon the shore or rocks, with the wings expanded, for several minutes at a time, in order to dry the feathers and bring them to the proper state for preening, as they are apt to become wet from long continued diving, causing the gradual loss of the oily matter that partly defends them from the action of the water. This species is a native of the new as well as of the ancient continent, being found in various parts of North America ; it is also met with in Northern Asia, and in Europe its distribution is wide, extending to high latitudes. The bronchi in this bird are of great length, and of equal diameter, issuing from the lower larynx, which is formed of a single cartilaginous ring. Immediately below the glottis, the tube is enlarged, but soon contracts, and remains of the same diameter through the rest of its course*.

PLATE 84. Represents the Adult bird in summer plumage, rather less than the natural size.

Upon the head and upper part of the neck are silky hair-like white feathers. The gorget and the patch upon the thighs pure white. Semi-erect occipital crest ; lower

General
description.

* It appears probable that, under favourable circumstances, the Cormorant would breed in a reclaimed or domesticated state, as Mr NEILL informs me, that one in his possession laid two eggs in April last (1832), and shewed an inclination to incubate. The eggs having been accidentally broken, the fact of their impregnation remains doubtful. He adds, that they roost with the poultry when they find the hen-house door open, keeping the cocks and hens at a respectful distance. The *Solan* never aspires in that way.

Summer
plumage.

part of the neck, breast, mesial line, and lower part of the back, and the whole of the under plumage glossy bluish-black; in some lights shewing a green reflection. Shoulders, scapulars, and greater part of the wing-coverts bronzed hair-brown, each feather surrounded by a zone of glossy velvet-black. Quills and tail black; the feathers of the latter having their shafts stiff and elastic, and the webs coarse and harsh. The end of the tail frequently worn by its use as a prop to support the body. Bill three inches long from the forehead to the tip; the upper mandible blackish-grey; the base of the lower one yellowish. Guttural dilatable skin black, with minute specks of king's-yellow. Naked skin around the eyes greenish-yellow. Irides bright green. Legs and toes black; the outer toe, including its nail, four inches in length.

Winter
plumage.

In winter, or after the autumnal moult, the occipital crest is wanting, and the head and upper part of the neck have only a few minute specks of white, almost imperceptible. Throat-collar greyish-white. In other respects as in the plumage of summer.—The young of the year have the head and neck brownish-black, slightly glossed with purplish-green. Throat-collar faintly indicated by a lighter tint. Under plumage inclining to brocoli-brown, mixed with greyish-white. Mantle, scapulars, and wing-coverts greyish-black, having the feathers bordered with blackish-brown. Bill pale hair-brown.

Young.

CRESTED SHAG, OR GREEN CORMORANT.

PHALACROCORAX CRISTATUS, *Steph., Flem.*

PLATE LXXXVI.

Phalacrocorax cristatus, *Steph.* Shaw's Zool. 13. 83.—*Flem.* Br. Anim. 118. No. 171.

Phalacrocorax Graculus, *Steph.* Shaw's Zool. 2. 887. sp. 15.

Pelecanus Graculus, *Lath.* Ind. Orn. 2. 887. sp. 15.

Corvus aquaticus minor, *Rai* Syn. 123. A.

Carbo cristatus, *Temm.* Man. d'Ornith. 2. 900.

Cormoran Largup, *Temm.* Man. 2. 900.

Shag or Crane, *Will.* (Angl.) 330. pl. 62.—*Penn.* Br. Zool. 2. 610. No. 292. pl. 182.—*Arct.* Zool. 2. 508.—*Lath.* Syn. 6. 598.—*Lewin's* Br. Birds, 7. 264.—*Mont.* Orn. Dict. & Sup.—*Bewick's* Br. Birds, ed. 1826, 2. p. t. 337. Crested Shag, *Penn.* Arct. Zool. 2. 585.—*Lath.* Syn. 6. 600.—*Mont.* Orn. Dict. and Sup.—*Flem.* Br. Anim. 118. No. 117. Shag Cormorant, *Steph.* Shaw's Zool. 13. 82. Crested Cormorant, *Steph.* Shaw's Zool. 13. 83.

PROVINCIAL—Green Scout, Green Gormer.

AFTER an examination of a great number of specimens, and diligent inquiries upon various parts of the coasts of England and Scotland, I have not been able either to meet with or hear of a single bird that can satisfactorily be referred to TEMMINCK's *Carbo Graculus*. This he considers identical with the *Pelecanus Graculus* of LINNÆUS and LATHAM, although his description does not coincide with that of the latter, nor with the *Shag* of our British ornithologists, which has always been supposed to represent the *Graculus* of the different systems, but which, from the descriptions given of it in its various states of age and plumage, undoubtedly belongs to TEMMINCK's other species, the *Carbo cristatus*, or "Cormoran Largup." This is evident from the stated dimensions of the bill, as well as colour of the adults during the summer plumage; for all our writers agree in describing the head and neck of the British Shag as being of a deep glossy black-green, without any intermixture of white feathers, or any patch of the same colour upon the thighs. Now, both of these are given by TEMMINCK as distinctive characters of his *Carbo Graculus*, which bird appears to resemble the Common Cormorant in every respect, but that of inferior size, shorter bill, and twelve instead of fourteen tail-feathers, in which latter point it agrees with the Crested species. Presuming upon TEMMINCK's usual correctness, and that his *Graculus* is an actually existing species, I have adopted his specific name of *Cristatus* for the bird now under consideration, and well known as the *Shag* and *Crested Shag* of our native authors. Dr FLEMING, it ought to be observed, retains both the *Graculus* and *Cristatus* in his History of British Animals, and even adds the epithet of "Common" to the former; but upon what authority he does so, I am at

a loss to conjecture. I cannot but think he has been led into some mistake with regard to the species, especially as he has quoted the *Corvus aquaticus minor* of WILLOUGHBY and RAY as a synonym, the description of which clearly refers to the Crested or Green Cormorant. I may also add, that the *Pelecanus cristatus* of LATHAM's Index Ornithologicus, quoted by TEMMINCK as a synonym of his "Cormoran Largup," seems to refer to some other species, probably the *Carbo Dilophus* of RICHARDSON and SWAINSON, mentioned in the Fauna Americana Borealis, as the crest is thus described; "Pennæ ad latera capitis utrinque elongatæ, cristam efformantes," a form and position totally unlike that of the Crested Shag. In the descriptions of this species given by our writers, much difference will be found in the details, but these may all be traced to the age, or particular state of plumage of the individual when described. In its perfect or crested state, that is, with the frontal tuft curving forwards, it seems to have come but rarely under observation, which will not appear extraordinary, when we consider the short time that the bird possesses it, viz. from about the month of February till nearly the middle of May. Upon the rocky shores and islands of England and Scotland, the Crested Shag is a common species, breeding in the clefts and on the

Nest, &c. ledges of perpendicular cliffs.—Its nest is composed of a mass of sea-weed, chiefly of the *Fucus vesiculosus*, and the eggs, four or five in number, are smaller, but similar in outward appearance to those of the preceding species. The young are also excluded in a naked state, but soon become covered with a thick black down, that is gradually hidden by the regular plumage. As nestlings, they have the same habit, when alarmed, of gaping with outstretched necks, and violently shaking the loose dilatable skin of the throat. This bird differs from the larger species in never frequenting fresh water lakes or rivers; residing constantly upon the sea-coast.—It preys upon various kinds of fish, which are obtained by diving, in which faculty it is equally quick and expert with the Common Cormorant.

Food.

PLATE 86. Represents a Male of this species (killed near the Fern Islands) in the nuptial plumage, or with the frontal crest fully developed. Natural size.

Head, neck, lower part of the back, and under plumage, fine silky blackish-green. Upon the forehead is a tuft of blackish-green elongated feathers, upwards of two inches long, and curving forwards. Mantle, scapulars, and wing-coverts deep-black, bronzed green, each feather being surrounded by a band of velvet-black. Tail consisting of twelve feathers, scarcely six inches long, black, with the shafts strong and elastic; the webs coarse, and generally much worn at their tips. Legs and toes black. Guttural skin and corners of the mouth gamboge-yellow, the former having black specks. Bill black; two inches and three-eighths in length from the forehead to the tip.

General description.
Summer plumage.

In autumn, and the early part of winter, it is destitute of the frontal elongated feathers, but in other respects the plumage is the same as in summer. Both sexes are nearly alike.—The young of the year have the head and neck of a greyish-black, tinged with green, and the under parts are more or less mixed with greyish-white. The upper plumage inclines to greenish-brown, and the zone that margins each feather is broader than in the adults.

Young.

GENUS SULA, *BRISS.* GANNET.

GENERIC CHARACTERS.

BILL longer than the head, thick, strong, strait, acuminate, compressed towards the point, with the dertrum slightly convex. Mandibles equal; the upper one laterally sulcated from the base to the tip, and with a hinge near the posterior part, making it to appear as if composed of five separate pieces. Culmen rounded. Lower mandible having the

angle rather prominent, gently ascending to the tip. Chin angle narrow and long, filled with a naked dilatable skin. Face naked. Tomia intractured, obliquely and unequally serrated. Nostrils basal; concealed from view. Tongue very small.

Wings long and acuminate. Tail graduated.

Legs abdominal; tarsi short; feet of four toes, all connected by a membrane; the middle and outer toes of nearly equal length. Middle claw having its inner edge dilated and toothed.

The Gannets are strongly distinguishable from the Cormorants by the shape of the bill, by their lengthened wings and lighter form of body, and not less so by the dissimilarity of their faculties and habits. For, instead of the natatorial and diving qualities possessed by the latter in such perfection, and on the constant exercise of which they depend for subsistence, the former are never known to dive, and are but seldom observed upon the water, where, when they happen to alight, they seem rather to float than to use any exertion in swimming. They have, on the contrary, a great and unwearied power of flight, and are almost continually upon wing. They prey upon such fish as occasionally swim near to the surface of the water, chiefly of the herring genus, and upon which they precipitate themselves as they soar in the air. During the season of reproduction they collect in large bodies, and inhabit the most precipitous rocks that overhang the ocean. They lay but one egg, and the young are nearly four years in acquiring maturity, undergoing during that period a great annual variation in the colours of the plumage. The legs, in this genus, are not placed so far backwards as in the preceding one; they walk, consequently, with the body in a horizontal and not in an upright position. The members of the genus are not numerous, and only one inhabits Europe, the Solan Gannet (*Sula bassana*), well known in the northern parts of this kingdom as a regular summer visitant.

SOLAN GANNET.

SULA BASSANA, Briss.

PLATES LXXXVI*. LXXXVII.

- Sula bassana*, *Briss.* Orn. 6. 503. pl. 44.—*Steph.* Shaw's Zool. 13. 100. pl. 11.—*Flem.* Br. Anim. 1. 118. No. 192.
Sula Hoiëri, *Raii* Syn. 123.
Anser bassanus, *Raii* Syn. 122. A.—*Will.* 247. t. 63.
Pelecanus bassanus, *Linn.* Syst. 1. 219.—*Gmel.* Syst. 1. 577.—*Lath.* Ind. Orn. 2. 891. sp. 26.
Fou de Bassan, *Buff.* Ois. 8. 376.—*Id.* Pl. Enl. 278.
Fou blanc ou de Bassan, *Temm.* Man. d'Orn. 2. 905.
Der Bassanische Pelikan, *Bechst.* Naturg. Deut. 4. 765.
The Gannet, *Br.* Zool. 2. 612. No. 293. pl. 103.—*Arct.* Zool. 2. No. 510.
—*Lath.* Syn. 6. 608. 25.—*Lewin's* Br. Birds, 6. pl. 265.—*Mont.* Orn. Dict. and Sup.—*Mont.* in Wern. Trans. 1. 176.—*Bewick's* Br. Birds. ed. 1826, 2. p. t. 390.—*Pult.* Cat. Dorset. 22.—*Low's* Faun. Orcad. 148.
Solan Goose, *Albin's* Birds, 1. pl. 86.
Sula major, *Briss.* 6. 497. 2.
Grand Fou, *Buff.* Ois. 8. 372.
Great Booby, *Lath.* Syn. 6. 610. 25. A.
Pelecanus maculatus, *Gmel.* Syst. 1. 579.
Fou tacheté, *Buff.* Ois. 8. 375.—*Id.* Pl. Enl. 986.
Spotted Booby, *Lath.* Syn. 6. 614. 30.

} Young.

ALTHOUGH the Gannet (or, as it is more frequently called in Scotland, the Solan Goose) deserts its breeding stations and the northern coasts of the kingdom upon the approach of autumn, it is occasionally found throughout the winter in the English Channel, where it keeps at a distance from the land, feeding upon the pilchards and herrings, which at that season retire to the deeper parts of the ocean. The main body of these birds, however, appears to seek more southern latitudes, as they are met with in great numbers during winter in the Bay of Biscay, on the coasts of Spain and Portugal, and in the Mediterranean; and here they find an abundant supply of the Anchovy and Sardine, both species of *Clupea* (herring). They generally make their appearance about the end of March or beginning of April, in the vicinity of their breeding stations: these are the Isle of Ailsa, at the mouth

Periodical
visitant.

Nest, &c.

of the Frith of Clyde; St Kilda; Souliskerry near the Orkneys; the Skelig Isles upon the Irish coast, and the Bass Rock at the entrance of the Frith of Forth. Upon the precipitous rocks of these islands they breed in innumerable multitudes, occupying all the ledges and summits wherever they find sufficient space for the nest, which is formed of a mass of sea-weed, and other materials, which they either find on the rocky cliffs, or gather from the surface of the sea as they pass on the wing. They lay but one egg each (not two, as stated by TEMMINCK), exceeding in size that of the Cormorant, but much less than the egg of the Common Goose, with which it has been compared. Its colour, when first laid, is white, but it soon becomes soiled, and as incubation proceeds, acquires a yellowish or clay-coloured appearance. The young, when hatched, are naked, their skin smooth and of bluish-black, but covered in a few days with a white down, which, growing rapidly, soon becomes very thick, giving them in this state the appearance of large powder-puffs, or masses of cotton. Over this warm clothing, the regular plumage gradually extends; and after about two months they are fully fledged and able to take wing. Great numbers of the young birds are annually taken upon the Bass Rock, not merely on account of the feathers and down, for the *bodies* are also sold in the neighbouring towns, and in the Edinburgh market, at the rate of 1s. 8d. each, being much esteemed, when roasted, as a relish a short time before the hour of dinner. Their flesh is very oily and rank, and though habit has reconciled the Scotch to such an unusual whet, few strangers would find their appetites increased, after partaking of such a dish. This precipitous rock (the *Bass*) is rented from the proprietor at L.60 or L.70 per annum, and as the proceeds chiefly depend upon the produce of the Gannets, great care is taken to protect the old birds, which the tenant is enabled to do from the privilege possessed by the proprietor, of preventing any person from shooting or otherwise destroying them within a certain limited distance

of the island. From the accounts I have received from the resident there, it appears that the Gannet is a very long-lived bird, as he has recognised, from particular and well-known marks, certain individuals for upwards of forty years, that invariably returned to the same spot to breed. He also confirmed to me the time required for this bird to attain maturity, viz. four years; and pointed out several in the different garbs they assume during that period, stating also, that until fully matured, they have never been known to breed. During incubation, in consequence of being unmolested, they become very tame; and, where the nests are easily accessible upon the flat surface of the rock on the south-west side of the island, will allow themselves to be stroked by the hand without resistance, or any shew even of impatience, except the low guttural cry of *grog, grog*. Upon the other breeding stations above mentioned, the produce of the Gannet is equally prized, and immense numbers, both of the eggs and young, are annually taken, and preserved by the inhabitants for winter's consumption. From the great development of the wings, and the peculiar apparatus of air-cells distributed over different parts of the body *, the flight of this bird is powerful and buoyant, and can be supported for any length of time. When in search of prey, it soars usually at a considerable elevation, as it thus obtains a sufficient impetus in its fall to reach the fish beneath the surface; at other times, when making its way to any distant point, or in dark and stormy weather, it flies comparatively low.—Its food consists almost entirely of the different species of herring, which it always takes by plunging vertically upon them as they rise within a certain distance of the top of the water. The force

Food.

* For a detailed and interesting account of the anatomical structure of this bird, I must (on account of its length) refer my readers to MONTAGU'S Supplement to his Ornithological Dictionary, under the article "Gannet;" or to a paper in the first volume of the Memoirs of the Wernerian Natural History Society, p. 176, entitled "Observations on some Peculiarities observable in the Structure of the Gannet," &c.

with which it descends in this operation, may be conceived from the fact of Gannets having been taken by a fish fastened to a board sunk to the depth of two fathoms, in which cases the neck has either been found dislocated, or the bill firmly fixed in the wood. PENNANT, and some other writers, describe this bird as having a gular pouch similar to that of the Pelican, and capable of containing five or six herrings; this, however, is not correct, as that part is not more dilatable than the rest of the gullet, which, as well as the skin of the neck, can occasionally stretch to much extent, readily allowing a passage to the largest herring, or even to a fish of still greater dimensions. MONTAGU observes, that he was not able to keep the Gannet alive in confinement; but this probably arose from the want of a due supply of fish, as I have known them to live for a long time in a domesticated state, and my friend Mr NEILL of Canonmills, near Edinburgh, (well known to the scientific world as a botanist and a lover of natural history), has at present, or at least within a very late period had, one in the full enjoyment of health for many years past. This bird, when herrings could not be procured, was fed with flounders, which it swallowed with the greatest apparent ease, the gape readily accommodating itself to their greater breadth. It is almost unnecessary to add, that all fish are swallowed with the head foremost. Sometimes the Gannet becomes so gorged with food, as to be compelled to alight on the water, and to repose there in a lethargic state; and when thus situated, it may, by being advanced upon in a boat from the windward, be easily run down and captured. This arises from its being unable to leave the water except when breasting the wind, and it never makes any attempt to dive, of which power it seems to be totally divested.—This species is widely distributed throughout the northern parts of Europe, and is also common to North America. The body of this bird is long and much flattened, with the neck elongated, and thick and muscular, in order to support its powerful bill; the wings are of great

length, the radius (or second joint) measuring fully eight inches; and the legs are not placed so far behind as in the Cormorants, so that the horizontal position is preserved in walking. In its affinities it seems to connect the true Pelicans with the genera *Tachypetes* and *Phaeton*.

PLATE 86*. Represents the Adult bird in about three-fifths of the natural size.

Bill bluish-grey, with the tip fading into white. Naked skin surrounding the eyes greyish-blue. The membrane forming the prolongation of the opening of the bill, and that which extends beneath to the middle of the throat, black. Irides pale-yellow. Crown of the head, occiput, and upper part of the neck, pale sienna-yellow. The rest of the plumage pure white, except the quills and bastard wing, which are black. Streak down the front of the tarsus, and along the upper part of the toes, bluish-green. Membranes of the toes blackish-grey. Claws greyish-white, the inner edge of the middle one being dilated and toothed.

General
descrip-
tion.
Adult
bird.

PLATE 87. The young of the year, about three-fourths of the natural size †.

Bill blackish-grey, tinged with brown. Irides pale clove-brown. Ground colour of the head, neck, and whole of the upper plumage blackish-grey, inclining to clove-brown, each feather being tipped with a triangular spot of white. Breast and abdomen white; the feathers being edged with greyish-black. Quills and tail greyish-black, with the shafts of the tail-feathers white. Legs and toes deep-grey.

Young.
First year.

Head, and greater part of the neck, white, more or less

Second
year.

† TEMMINCK has committed an error in describing the plumage of the first as that belonging to the bird of the second year, and *vice versa*, in which he has been copied by Mr STEPHENS and Dr FLEMING.

spotted with blackish-grey. Upper plumage of nearly a uniform clove-brown, the triangular spots upon the tips of the feathers becoming less distinct, or entirely disappearing. Under plumage becoming whiter.

Third year. The white increasing over all the body. The long scapulars and tertials remaining black, or spotted with blackish-grey. The head beginning to acquire the sienna-yellow tinge.

The plumage of the *fourth year* is described above as the adult Bird.

FAMILY V.—LARIDÆ.

THE Laridæ, which form the fifth family of the Order, and thus complete the circle of the *Natatores*, are distinguished from the preceding division by the form of the feet, which are never *syndactyle*, that is, with all the four toes connected by a continuous membrane. The hind toe, in such species as have one, is free and articulated on the back part of the tarsus; but in some it is either totally wanting or represented by a nail or short claw. The wings of all the members of this family are of great length, and they consequently possess a power of long-continued flight, surpassed perhaps by none of the feathered race. In them the bill is either strait and pointed, as that of the Terns (genus *Sterna*), or with a hooked tip, as in the gulls (genus *Larus*), Petrels (*G. procellaria*), and other nearly allied genera. Most of them subsist upon fish, and other marine matter, either in a living state, or when cast ashore, or floating upon the surface of the sea. Some are, however, in the habit of daily frequenting the interior of the country, and feeding upon earth-worms, slugs, insects, and other animal matter. They are all birds of rapid digestion, and consequently of voracious appetite. Many species are accustomed to repose upon the water, where, from the bulk and closeness of their plum-

age, they float with much buoyancy ; but they make little use of their power of swimming, and are altogether incapable of diving. Others, as the Petrels, never actually alight on the water, but use their webbed feet to run, as it were, upon the surface of the waves ; and in this action they are assisted by their wings, which are kept partly open. The passage from the *Pelecanidæ* to these birds is effected by the near affinity existing between the genus *Phaeton* of that division and the larger Terns which commence the present one. In this family also, according to the arrangement of Mr VIGORS, a form is found connecting it with the *Anatidæ*, thus completing the circular succession of the Order ; and this he thinks is performed by *Pachyptila*, a genus nearly allied to the Petrels. The affinity thus endeavoured to be established, seems, I must confess, distant, and stands in need of the interposition of other forms to render it satisfactory and complete.

GENUS STERNA, LINN. TERN.

GENERIC CHARACTERS.

BILL as long as, or longer than, the head, almost straight, compressed, drawn to a fine point, with both mandibles of equal length, and the upper slightly convex. Tomia rather intracted and sharp-edged. Lower mandible having a prominent angle near its middle part. Nostrils basal, lateral, linear oblong, pervious.

Wings very long, acuminate, with the first quill-feather the longest. Tail more or less forked. Legs having the tibiæ naked for a short space above the tarsal joint. Tarsi short. Feet of four toes, three before and one behind ; the three front toes united by a membrane more or less scalloped, the hind toe small and free. Claws arched and sharp.

The Terns, which, in the present family, appear to repre-

sent the fisisrostral tribe of the *Insessores*, have a form and organization admirably suited to their particular economy. Being destined to pass the greater part of their existence in the air, their wings are of great extent, the tail long, and in general deeply forked (a shape possessed by most birds gifted with extraordinary power of flight), the body small and compact, the legs short, and with small feet, not calculated to advance their progress in swimming, but sufficient for their support when occasionally reposing on the water. Such of the species as frequent the ocean subsist upon the fry and the smaller kinds of fish, which they take from the wing, by precipitating themselves upon such as rise within a certain distance of the surface of the water. In this act they descend with astonishing rapidity and force, and are often buried beneath the waves for several seconds. Others, more frequently found upon rivers and fresh-water lakes, in addition to fish, prey upon libellulæ, and other aquatic insects. The distribution of the different species is very extensive, as they are found in all quarters and climates of the world. They are subject to a double moult, but the vernal change is confined to the region of the head, and the plumage of both sexes is precisely similar. The young, until after the first or second general moult, differ from the old birds. During the season of reproduction they congregate in large bodies, nestling closely together, generally upon the shingle, or lower parts of the islets they frequent. Their eggs are three or four in number. By the near affinity of the Gull-billed Tern (*Sterna Anglica*) to some of the lesser species of dark-headed gulls, their connection with the genus *Larus* is evidently traced.

CASPIAN TERN.

STERNA CASPIA, Pall.

Sterna Caspia, Pall. Nov. Com. Petrov. 14. 582. No. 52.—*Gmel. Syst.* 1. 603.—*Lath. Ind. Orn.* 2. 803. sp. 1.—*Steph. Shaw's Zool.* 13. 145.
Sterna Tschegrava, Nov. Com. Petrov. 14. 500. t. 132.
Hirondelle-de-Mer Tschegrava, Temm. Man. d'Ornith. 2. 733.
 Grosse oder Caspische Meerschwalbe, *Bechst. Naturg. Deut.* 4. 675.
 Grosse schnabliger Meerschwalbe, *Meyer, Vog.* 2. Heft. 28. t. 6.
 Caspian Tern, *Penn. Arct. Zool.* 2. 526. B.—*Id. Sup.* p. 76.—*Lath. Syn.* 350. 1.—*Steph. Shaw's Zool.* 13. 145.

THE capture of two or three individuals of this species in the south-eastern parts of England, entitles it to rank in the list of our Fauna as a very rare visitant; in consequence of which rarity its habits have been exposed to very little observation, and the details of the various authors who notice it scarcely extend beyond a description of its plumage. I must therefore request the indulgence of my readers to a meagre and unsatisfactory account. This bird is one of the largest of its genus, some specimens measuring as much as twenty-two inches in length. In Europe it inhabits the coasts of the Baltic, the Caspian Sea, and the Archipelago. It also occurs in Africa, being met with at Senegal and the Cape of Good Hope; and, according to LATHAM, is known in India and in the Chinese seas, though under rather a different aspect, which renders it not improbable that the bird he has imagined to be a variety of the Caspian Tern, may actually be a distinct species, since so many of them nearly resemble each other in plumage. The habits of the bird now before us are presumed to be similar to those of the other oceanic Terns; and we are informed that it precipitates itself, like them, from a considerable height in the air upon its food, which consists of living fish. Mr STEPHENS, in Shaw's General Zoology, says that its manners rather resemble those of the Gulls, adding that its voice is like the noise made by a man in

Very rare
visitant.

Food.

laughing. This author has fallen into an essential mistake in describing the whole of the upper plumage as of pure white; the mantle and scapulars being, on the contrary, of a pale pearl-grey, a colour that prevails on those parts through all the members of the *Laridæ*.—It breeds upon the lower parts of small islands, merely scraping a shallow hole in the sand or shingle, and lays two or three eggs of an olive-green colour, dashed and spotted with deep brown or black.

Incubation, &c.

General description. In the adult summer or nuptial plumage, the bill is of a rich vermilion, and the legs and feet black. The forehead, crown of the head, and lengthened occipital feathers velvet-black. Back, scapulars, and wing-coverts pearl-grey. Sides of the head, fore part of the neck, and the whole of the under plumage pure white. Quills brown, tinged with grey. Tail pearl-grey.

Summer plumage.

Winter plumage. In winter the forehead and crown of the head are white, and the occiput is varied with black and white. In other respects as above described.

Young. The young of the year have the upper parts of a pale wood-brown, tinged with grey, and varied by the transverse blackish bars and spots. Quills blackish-brown, and the end of the tail of the same colour. The under plumage white.

SANDWICH TERN.

STERNA BOYSII, *Lath.*

PLATE LXXXVIII. FIG. 2.

Sterna Boysii, *Lath.* Ind. Orn. 2. 806. sp. 10. but not the varieties,—*A. B.*—*Flem.* Br. Anim. 1. 142. No. 232.
Sterna cantiaca, *Gmel.* Syst. 1. 606. sp. 15.—*Steph.* Shaw's Zool. 13. 147.
Hirondelle de Mer Caugek, *Temm.* Man. d'Orn. 2. 735.
Sandwich Tern, *Lath.* Syn. 6. 356. 9.—*Id.* Sup. 266.—*Lewin's* Br. Birds, 6. pl. 203.—*Mont.* Orn. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826, 2. p. t. 189.—*Shaw's* Zool. 13. 149.—*Flem.* Br. Anim. 1. 142. No. 132.—*Rennie's* Mont. Ornith. Dict. 449.—*Selby* in Zool. Journ. 2. 463.

Sterna Africana, *Gmel. Syst.* 1. 605.—*Lath. Ind. Orn.* 805. sp. 5.
African Tern, *Lath. Syn.* 6. 354. 5.—*Id. Gen. Hist.* 10. 108.
Sterna striata ? *Lath. Ind. Orn.* 2. 807. sp. 11.—*Gmel. Syst.* 1. 609.
Striated Tern, *Lath. Syn.* 6. 358. 10. t. 98.

} Bird not quite
 matured.
 }
 } Young before
 the moult.

THIS bird appears to have escaped the notice of the earlier British writers, as we do not find any description applicable to it previous to that of Dr LATHAM, in his General Synopsis, to whom it was communicated as a new species by Dr BOYS of Sandwich in Kent. In size it equals, or is in a very slight degree larger than, the Gull-billed Tern, with which it has sometimes been confounded, but is smaller than the Caspian Tern, as it seldom exceeds eighteen inches in length, and about two feet nine inches in extent of wing. Upon the southern coast, where it was first discovered, it is far from being numerous, even during the breeding season, as MONTAGU observes, that during a summer's residence on the coasts of Kent and Sussex, where the other species were plentiful, he was only able to procure two specimens, and never could discover their breeding station. It annually resorts in great numbers to the Fern Islands, on the coast of Northumberland, as well as to the Isle of Coquet, a few miles to the southward. Here a station is selected apart from the other species, generally on a higher site, and the nests are so close to each other as to render it difficult to cross the ground without breaking the eggs, or injuring the unfledged young. Upon this coast it is called, *par excellence*, "the Tern," all the other species passing under the general name of "Sea Swallows." Its habits strongly resemble those of its genus, and it subsists upon similar kinds of fish, the sand-launce and young gar-fish forming the principal supply, and upon which it precipitates itself as they rise near to the surface of the ocean. Its flight is strong and rapid, making a great advance at each stroke of the pinions, and, except when engaged in incubation, it is almost constantly on the wing, uttering at intervals a hoarse and grating cry, which can be heard at a very great distance, and gives notice of its approach long

Periodical
 visitant.

Food.

before it is discoverable by the eye. If much disturbed by being fired at, or if the eggs be repeatedly taken at the commencement of the season, it deserts the station first selected, and retires to some other place, less liable to molestation. Such a migration took place about three years ago in the colony which had long frequented a particular islet of the Fern group, for, in consequence of some misunderstanding between the proprietor and the person who had the care of these islands, the fishermen on the coast, and boats from passing vessels, made, for one or two seasons, unrestrained irruptions upon the feathered inhabitants; and although many of the other species adhered to their usual haunts, the Sandwich Terns entirely deserted theirs, and fled to Coquet Island, where, from being better protected, they reared their young without farther molestation. Within the last two years, under another tenant of the islands, a considerable body of these birds has returned, but to a site upwards of a mile distant from the one formerly occupied. As soon as the young birds become tolerably fledged, but before they are altogether able to fly, they frequently take to the water, swimming off to the smaller rocks, where they continue to be fed by the parents until capable of joining them in their fishing excursions. With the exception of the Caspian and Gull-billed Terns, which can only be considered as occasional stragglers to our coasts, all the other British species are regular summer visitors. The time of their arrival is about the middle of May; incubation commences in the first week in June, and nearly the whole have again taken their departure for more southern latitudes by the end of September.—The eggs of this bird are three or four in number, for the reception of which a shallow hole is scratched amongst the sea-campion (*Silene maritima*), or other plants that may happen to grow on the selected place. In size they are about equal to those of the Golden Plover, and are usually of a cream or wood-brown colour, blotched with dark brown and black, and with other spots of a lighter shade appearing as it were beneath

Incubation, &c.

the shell. The common varieties of them are either with fewer spots and blotches upon a white ground, or of a deep oil-green, with spots of a darker shade *.

PLATE 88. Fig. 2. Represents this bird of the natural size, and in the summer plumage.

Forehead, crown, and long pendent occipital feathers deep black, but in the beginning of the season the feathers of the forehead are frequently spotted with white, being the remains of the winter plumage. Fore part of the neck, breast, and under plumage rosy or reddish-white. Quills deep hoary ash-grey, having a velvety appearance with the interior half of their inner webs white. Bill black, with the tip straw-yellow. Legs black, the under surface of the toes and webs yellow. Claws black, and very hooked.

In winter the forehead and crown are white. The occiput black, with the edges of the feathers white. At the anterior angle of the eye is a patch of black. Under plumage glossy white, and without the rosy tint. In other respects as in the summer.

The young of the year are, above, of a pale wood-brown, transversely barred with broccoli-brown. The quills are of a deep blackish-grey, bordered and terminated by white. Under plumage white. Bill blackish, tinged with flesh-red, with a yellowish tip. Tail greyish-black in the middle, with the tips of the feathers white.

* For correct figures of the Eggs of British Birds, I refer my readers to Mr HEWITSON's beautiful work entitled "British Oology," now in the course of publication.

COMMON TERN.

STERNA HIRUNDO, Linn.

PLATE XC. FIG. 1.

Sterna Hirundo, Linn. Syst. 1. 227. 2.—Gmel. Syst. 1. 606.—Lath. Ind. Orn. 2. 807. sp. 15.

Hirundo marina, Raii Syn. 131. A.—Will. 268. t. 68.

Sterna major, Briss. Orn. 6. 203. 1. t. 19. f. 1.

Hirondelle-de-Mer Pierre Garin, Buff. Ois. 8. 331. 27.—Id. Pl. Enl. 987.—Temm. Man. d'Ornith. 2. 740.

Gemeine Meerschwalbe, Meyer, Tasschenb. Deut. 2. 459.

Sea Swallow, Albin, 2. t. 88.—Will. (Angl.) 352.

Greater Tern, Br. Zool. 2. 545. No. 254. t. 90.—Lath. Syn. 6. 261. 14.—Lewin's Br. Birds, 6. pl. 204.—Mont. Orn. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, 2. pt. 185.—Pult. Cat. Dorset. 18.—Low's Faun. Orcad. 125.

Common Tern, Shaw's Zool. 13. 150. pl. 18.—Flem. Br. Anim. 1. 143. No. 235.

PROVINCIAL.—Kirmcw, Picket, Tarney, Pictarne, Rittcock, Tarret, Spurre, Scraye, Gull Teaser.

Periodical
visitant.

FROM the trivial name attached to this species the supposition naturally arises that its distribution must be more general throughout our coasts than any of the other Terns. This, however, is not the case, as it is of rare occurrence upon the whole extent of the eastern shores of the north of England and Scotland; where its place seems to be supplied by the Arctic and Roseate species. Upon the Fern Islands I have never seen more than two or three pairs in a season; and at the Isle of May in the Frith of Forth, and other northern resorts of various kinds of sea-fowl, its numbers are equally restricted. On the contrary, it visits the opposite parts of the western coast in large bodies, breeding abundantly on certain situations in the Solway, and the Frith of Clyde; and is moreover the prevailing species upon all the southern coast of England. Its flight rather resembles that of the Roseate Tern, but it is scarcely so buoyant, and has a quicker motion of the wings. Its voice is harsh, but easily to be distinguished from those of the

other species, when flying in company with them.—It feeds upon small fish, which are taken in the same way as by the others of this genus; but, according to MONTAGU, it possesses a habit which I have not observed in the rest, that of pursuing and persecuting the lesser gulls till they disgorge their recent prey, which is caught and swallowed by it ere it reaches the water. In the Supplement to the Ornithological Dictionary, MONTAGU has attached the *Sterna Naviu* of LINNÆUS and GMELIN, and also the *Guifette* of BUFFON, as synonyms to this species; but I feel more inclined to adopt TEMMINCK's opinion, viz. that they are more immediately referable to the *Sterna nigra*, than to the present species. The Common Tern is widely distributed throughout the ancient continents and islands, and during the breeding season is found as far to the northward as Greenland and Spitzbergen. The species described by WILSON, in the American Ornithology, as *Sterna Hirundo*, is clearly distinct, and has by the Prince of Musignano been appropriately named *Sterna Wilsonii*.—The Tern breeds upon the sand or shingle beyond high-water-mark, making no artificial nest, but scraping a slight concavity for the reception of two or three eggs, which vary very much in colour; the ground in some being of a deep oil-green, in others of a cream-white, or pale wood-brown, but all blotched with blackish-brown and ash-grey. In warm and clear weather this bird incubates little during the day, in such situation the influence of the sun upon the eggs being sufficient; but it sits upon them in the night, and also through the day under a less favourable state of weather. The young when excluded are covered with a mottled grey and white down, and are assiduously attended by the parents, and well supplied with food, until able to fly, and accompany them to sea. During the time of incubation the old birds display great anxiety, and are very clamorous when any one approaches their station, in flying round and frequently descending so near as to strike the hat of the intruder.

Food.

Incubation, &c.

PLATE 90. Fig. 1. represents it of the natural size, in the summer plumage.

General
description
Summer
plumage.

Bill one inch and a half in length, from the forehead to the tip; red for two-thirds of its length, with the point black. Forehead, crown, and long occipital feathers intense black; the rest of the face, cheeks, and throat, white. Breast having a slight tinge of pearl-grey; the rest of the under plumage white, frequently with a very faint rosy tinge. Head, neck, mantle, and wings, pearl-grey. Lower part of the back and upper tail-coverts white. Tail having the exterior webs of the feathers grey, increasing in depth of colour to the outermost one, in which it is greyish-black. Quills, with the outer web of the first feather black for the greater part of its length; the rest hoary grey; the white upon their inner webs ending at about an inch and a half from the tips. Legs and feet bright tile-red; the tarsus seven-eighths of an inch long.

Winter
plumage.

In winter the black upon the forehead and crown loses its intensity; in other respects there is no difference between that and the summer plumage.

ROSEATE TERN.

STERNA DOUGALLII, Mont.

PLATE LXXXIX. FIGS. 1. & 2.

Sterna Dougallii, Mont. Orn. Dict. Sup. with fig.—*Selby* in Zool. Jour. 2. 462.—*Shaw's Zool.* 13. 152.—*Flem. Brit. Anim.* 1. 143. No. 234.
Hirondelle-de-Mer Dougall, Temm. Man. d'Orn. 2. 738.
Roseate Tern, Mont. Orn. Dict. Sup.—*Bewick's Br. Birds*, ed. 1826, pt. 192.
—*Shaw's Zool.* 13. 153.—*Flem. Br. Anim.* 1. 143. 234.—*Rennie's Mont. Orn. Dict.* 432.

Periodical
visitant.

THIS species of Tern was first discovered by Dr MACDOUGALL of Glasgow, on the Cumbray Islands in the Frith of Clyde, the breeding resort of great numbers of the com-

mon species; but has since been found to inhabit many other stations during the summer, both upon the eastern and western coasts of Scotland. Upon the Fern Islands, on the Northumbrian coast, I have also met with it plentifully for the last fifteen years; but here it had only been noticed for a year or two previous to that period as a distinct species, by the keeper of the Lighthouse, from whom I received the first intimation of the fact. According to TEMMINCK, the shores of Norway also afford it a summer retreat, and it has been found to breed, though in small numbers, upon the coast of Picardy in France. It is of light and elegant form, rather inferior in bulk to the Common Tern, though of greater length, from the extreme development of the outer tail-feathers, which in many specimens reach nearly three inches beyond the closed wings. Its bill is also more subulate and not so deep as in the other, and entirely black, with the exception of the part immediately behind the nostrils, which is of a deep red. It is easily to be distinguished when on wing from all the other species, its flight being peculiarly buoyant, and sustained by a slower stroke of the pinions. The length of the tail is also characteristic, and its cry is different in expression, resembling the word *crake*, in a key not unlike that of the Land Crake.—Upon the Fern Islands it breeds on the outskirts of the station occupied by the Arctic Tern (the prevailing species there); and its eggs much resemble those of that bird, but are a little larger, and with the ground-colour usually more inclining to cream-white or pale wood-brown. In habits it scarcely differs from its nearly allied congeners, preying on the same kinds of fish, which are obtained in a similar manner as they rise towards the surface of the water. Its arrival may be stated as at the same time with the Sandwich and Arctic Terns; and by the end of September nearly the whole of them will have departed for warmer latitudes.

Incuba-
tion, &c.

Food.

PLATE 89. Fig. 1. represents the Adult bird in summer plumage.

General
description.
Adult
bird.

Bill, from the forehead to the tip, one inch and a half long; the upper mandible gently arched; and both the mandibles more slender than in the Common and Arctic species. Forehead, crown, and long feathers of the occiput, intense black. Line from the base of the upper mandible, cheeks, neck, and the whole of the under plumage, of a glossy white, deeply tinged with rosy red (which fades in museum specimens when exposed to the light). Back and wing coverts pale pearl-grey. Outer web of the first quill-feather black; of the rest, hoary grey; inner web of the whole having a streak of hoary grey next the shaft, and the other part pure white. Tail pure white; with the outer feather on each side much produced, and reaching from two and a half to three inches beyond the tips of the wings. Legs and toes bright red; the tarsi six-eighths and a half of an inch in length; membranes much scalloped; claws black.

Young.

Fig. 2. is the Young of the year, immediately previous to its departure in autumn.

Bill brownish-black, with the base orange-yellow. Forehead and crown cream-yellow, tinged with grey. Region of the eyes, ear-coverts, and nape of the neck, greyish-black, mixed with yellowish-white. Throat, sides of the neck, and under parts, white. Ridge of wing blackish-grey, with the edges of the feathers paler. Back and wing-coverts bluish-grey, marbled with greyish-black and yellowish-white. Tail having the outer webs of the feathers grey; the inner, and tips, white. Quills grey, margined with white. Legs pale gallstone-yellow.

The winter plumage of this species has not yet been ascertained.

ARCTIC TERN.

STERNA ARCTICA, Temm.

PLATE XC. FIG. 2.

Sterna arctica, Temm. Man. d'Orn. 2. 742.—Selby in Zool. Jour. 2. 461.

—Steph. Shaw's Zool. 13. 152.—Sabine in Frank. Jour. App. 694.

Hirondelle-de-Mer Arctique, Temm. Man. 2. 742.

Arctic Tern, Selby in Zool. Jour. 2. 461.—Lath. Gen. Hist. 10. 116.—

Shaw's Zool. 13. 152.

THIS bird, which was first described and confirmed as a distinct species by M. TEMMINCK, has long been a summer visitant to the coasts of the north of England and Scotland. Here it is met with in greater numbers than even the Roseate and Sandwich Terns, but until the distinguishing characters which separate it from the common species (of which Dr FLEMING still seems to consider it as only a variety) were pointed out, it had always, as the prevailing species in the parts it frequents, been mistaken for that bird; which latter, as I have previously noticed, is comparatively of rare occurrence on the north-eastern coast of the kingdom. Upon close examination and comparison of their characteristics, as great a distinction will be found to exist between the bird now before us and *Sterna Hirundo*, as between the latter and *Sterna Dougallii*; which last is generally admitted to be a separate species. The bill is different in form, being shorter, and with the upper mandible more arched throughout its length; its colour is also of a deeper coral red, and, when some few exceptions occur to its being entirely of that colour, it is the extreme tip alone that is darker. Again, the tarsi of *Sterna arctica* are nearly two-eighths of an inch shorter than those of *S. Hirundo*,—a fact of itself sufficient to establish its rank as a species. It also differs materially in the colour of its plumage; the whole of the breast, neck, and under parts being of as deep a grey as the back and

Periodical
visitant.

Incuba-
tion, &c.

wings, during the breeding season,—whereas, in the Common species, the forepart of the neck, the belly, and abdomen, are nearly white, and in the breeding season frequently tinged with rosy red, as in *S. Boysii* and *Dougallii*. The grey colour in the present species is also of a deeper tint. When in company with the others, it is easily recognised by its voice, mode of flight, and other traits, which, though they might pass unheeded by a common observer, are quickly seized upon by the practical ornithologist. Upon the Northumbrian coast it breeds in great numbers on the Fern Islands, where I corrected my mistake respecting it, having at first conceived it to be the Common Tern.—The colony occupies a large space on the islet selected, and the eggs are placed so near to each other as to render it difficult to traverse the site without crushing some of them. They are deposited on the bare sand or gravel, to the number of two or three each, rarely four, and differ much in colour and markings. The prevailing tint may be stated as a deep oil-green, with darker spots and blotches. The young, upon exclusion, are covered with a parti-coloured down, usually a yellowish-grey, with darker variegations, but they fledge very rapidly, and within a month from the time of hatching are able to fly. Until they are so far advanced, they continue to be assiduously visited by the parents, and are fed with the fry of the sand-launce (*Ammodytes Tobianus*), which is taken in the manner common to the genus, by plunging from some height in the air.

PLATE 90. Fig. 2. represents the Arctic Tern of the natural size, and in the summer plumage.

General
description.
Adult
bird.
Summer
plumage.

Bill, from the forehead to the tip, one inch and two-eighths long, with the upper mandible arched; colour arterial blood-red; (in some specimens the extreme tip is blackish-red). Forehead, crown, and long occipital feathers, intense black. Chin, and line bordering the black cap, white. Neck, breast, and the whole of the upper and under plumage, deep pearl-grey. Outer web of the

first quill black, except about an inch near to the tip, which is grey; those of the other quills having pearl-grey tips, and exhibiting a silky lustre. Tail white, and much forked; the exterior feather on each side having its outer web blackish-grey; those of the rest being pale pearl-grey. Wings, when closed, reaching to the end of the tail. Legs and feet deep arterial blood-red. Tarsi five-eighths of an inch in length. Claws black.

The winter plumage of this bird has not yet been ascertained.

The Young, when fully fledged, have the auriculars and occiput greyish-black. The upper parts pearl-grey, with the tips of the feathers pale yellowish-grey. The under parts white. Young.

LESSER TERN.

STERNA MINUTA, Linn.

PLATE LXXXIX. Figs. 3. 4.

Sterna minuta, Linn. Syst. 1. 228. 4.—Gmel. Syst. 1. 608.—Lath. Ind. Orn. 2. 809. sp. 19.—Steph. Shaw's Zool. 13. 163.—Flem. Br. Anim. 1. 144. No. 237.

Sterna minor, Briss. Orn. 2. 206. pl. 19. fig. 2.

Sterna Metopoleucos, Gmel. Syst. 1. p. 608.—Lath. Ind. Orn. 2. 809. sp. 22.

Iarus piscator, Aldrov. Raii Syn. 131. A. 2.—Will. 2. 69.

La Petite Hirondelle-de-Mer, Buff. Ois. 8. 337.—Id. Pl. Enl. 996.—Temm. Man. d'Orn. 2. 752.

Die Kleine Meerschwalbe, Bechst. Naturg. Deut. 4. 699.—Meyer, Tassenb. Deut. 2. 463.

Hooded Tern, Lath. Syn. 6. 365. 21.

Lesser Tern, Penn. Br. Zool. 2. 546. No. 255. pl. 90.—Arct. Zool. 2. No. 449.—Lath. Syn. 6. 364. 18.—Lewin's Br. Birds, 6. pl. 205.—Mont. Orn. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 187.—Flem. Br. Anim. 2. 144. No. 237.

Little Tern, Shaw's Zool. 13. 163.

Richel Bird, Rennie's Mont. Orn. Dict. 419.

Lesser Sea Swallow, Albin's Birds, 2. pl. 90.—Will. (Angl.) 353. t. 68.

OF the several species of Tern that annually resort to our Periodical
coasts for the purpose of reproduction, this is much the visitant.

smallest, not exceeding nine inches in extreme length, and measuring in extent of wing about twenty inches. The communities in which it breeds are seldom so numerous as those of the preceding and other species, and it is rarely found in company with them. Thus, upon the coast of Northumberland, the Lesser Tern is not an inhabitant of the Fern Islands, the great resort of those already described ; but this bird annually breeds in a small colony, about eight or nine miles distant, upon the beach of the mainland, near to Holy Island. It is plentiful in the Frith of Forth, where it occupies stations on both sides of the arm of the sea ; and is met with in various parts upon the western shores of the island, and also on the Lincolnshire coast, in which latter place, according to MONTAGU, it is very abundant. In this species the bill is large, strong, and almost straight, the upper mandible being very little arched. It is an oceanic bird, being only accidentally met with inland, or upon fresh-water lakes and rivers.—Its food consists of marine insects and the fry of different fish. Its habits are so similar to those of the other species, as to require no particular detail.—Its eggs are generally two in number, sometimes three, which are deposited on the bare gravel or sand, just beyond the reach of the highest tides. Their colour is a pale wood-brown, or oil-green, blotched with brown of different shades. The Lesser Tern arrives on our coasts, and departs nearly at the same periods as the other species.

Food.

Incubation, &c.

General description.

Adult bird.
Summer plumage.

PLATE 89. Fig. 3. represents the Adult Bird of the natural size, and in the summer plumage.

Bill yellow, with the tip black ; one inch three-eighths and a-half in length. Streak from the bill to the eyes, crown, and long occipital feathers, black, Forehead, cheeks, forepart and sides of the neck, and the whole of the under plumage, pure white. Back and wing-coverts pearl-grey. The three first quill-feathers blackish-grey, with their inner webs deeply edged with white ;

the rest pearl-grey. Tail white, and forked. Wings, when closed, extending beyond the tail. Legs and toes yellow; the tarsi about five-eighths of an inch in length.

Fig. 4. is the Young Bird, when fledged.

Young.

Forehead, crown, and occiput, cream-yellow, varied with blackish-grey on the latter part. Back, scapulars, and part of the wing-coverts cream-yellow, each feather having an angular bar near the tip. Chin, throat, and under plumage, white. Tail white at the base, passing into cream-yellow at the tip. Bill pale yellow, with its tip blackish-brown. Legs and toes pale sienna-yellow.

The winter plumage of the adult differs from that of the summer only, in having the black upon the head less intense, and the white of the forehead extending farther backwards.

BLACK TERN.

STERNA NIGRA, Linn.

PLATE XCI.

Sterna nigra, Linn. Syst. 1. 227. 3.—Gmel. Syst. 1. 608.—Lath. Ind. Orn. 2. 810. sp. 24.—Briss. Orn. 6. 211. 4.—Flem. Br. Anim. 1. 144. No. 236.—*Sterna fissipes*, Linn. Syst. 1. 228. 7.—Gmel. Syst. 1. 610.—Lath. Ind. Orn. 2. 810. sp. 23.

Sterna atricapilla, Briss. Orn. 6. 214. 5.

Larus niger Gesneri, Raii Syn. 131. A. 3.—Will. 269.

Larus minor fidipes nostras, Raii Syn. 132. A. 6.—Will. 270.

Larus niger fissipes alis longioribus, Aldrov. Raii Syn. 131. 4.—Will. 270. t. 68.

Viralva nigra, Leach in Cat. Br. Mus.—Steph. Shaw's Zool. 13. 167. pl. 19.

Hirondelle-de-Mer noir ou l'Epouvantail, Buff. Ois. 8. 341.—Id. Pl. Enl. 333.—Temm. Man. d'Ornith. 2. 749.

Hirondelle-de-Mer à Tête noir, ou le Gachet, Buff. Ois. 8. 342.

Schwarze und Schwarzkehliger Meerschwalbe, Bechst. Naturg. Deut. 4. 692. and 697.

Schwarzgraue Meerschwalbe, Meyer, Tasschenb. Deut. 2. 461.

Lesser Sea Swallow, Albin's Birds, 2. t. 89.—Lath. Syn. 6. 367. 22. A.

Black Tern, Penn. Br. Zool. 2. 547. No. 256.—Arct. Zool. 2. 450.—Lath. Syn. 6. 366. 22.—Id. Sup. 267.—Lewin's Br. Birds, 6. pl. 206.—Mont.

- Ornith. Dict. and Sup.—*Bewick's Br. Birds*, ed. 1826, p. t. 195.—*Flem.*
Br. Anim. 1. 144. No. 236.
 Black Viralve, *Shaw's Zool.* 13. 167. pl. 19.
 Stern, *Rennie's Mont. Orn. Dict.* 495.
Sterna naevia, *Linn. Syst.* 1. 228. 5.—*Gmel. Syst.* 1. 609.—*Briss. Orn.* 6.
 216. 6. t. 20. f. 2.
Sterna Boysii, var. B. *Lath. Ind. Orn.* 2. 806. sp. 10.
 La Guiffette, *Buff. Ois.* 8. 339.—*Id. Pl. Enl.* 924.
 Die Gefleckte Meerschwalbe, *Bechst. Naturg. Deut.* 4. 688.
 Kamtschatkan Tern, *Arct. Zool.* 2. 525, A.—*Lath. Syn.* 6. 358. 9. var. A.
 PROVINCIAL—Clovenfoot Gull, Scarecrow, Car Swallow.

Periodical
 visitant.

THE Black Tern differs from the species already described in preferring the lakes and pools of the interior of the country to the waters of the ocean, and in subsisting upon *Libellulæ*, and other aquatic insects, in preference to fish. For these reasons, and from a slight difference of form in the tail, which is rather less forked, Mr STEPHENS has separated this and some other species, under the generic title of *Viralva*, from the Terns already described; but as no marked characters of distinction are displayed in those essential members, the bill and legs; and as the habits of the present (except in the points above stated) are very similar to those of the before described species, I have retained the whole under the Linnean genus *Sterna*. Like the foregoing, the present bird is migratory, being a regular summer visitant; its arrival in the fenny parts of Lincolnshire and Cambridgeshire, and in the pools of Romney Marsh, in Kent, taking place towards the end of April, or the beginning of May, and in-

Nest, &c.

cubation commences soon afterwards.—It breeds among sedges or other aquatic herbage, making, according to MONTAGU, a nest of similar vegetable matter on a grassy tuft, just above the surface of the water; and TEMMINCK further states that the site is frequently the expansive floating leaf of the Water Lily (*Nymphaea alba*). The eggs, from two to four in number, are of an oil-green colour, tinged with wood-brown, and blotched all over with deep umber-brown, in size one-third less than those of the Common and Arctic Terns. The appearance of the Black Tern in this country is principally confined to the districts above mentioned, and

it is rarely met with in the north of England or in Scotland. On continental Europe, it is very abundant throughout the whole of Holland, in many parts of France, and in that portion of Hungary which is intersected by lakes and morasses. Its food chiefly consists of the larger sorts of water-fly, as *Libellulæ*, *Phryganææ*, &c., but it also eats the fry of fish, and aquatic worms. Its flight is peculiarly buoyant, and has been compared to that of *Night Jar*; the evolutions being very rapid, and the turns very abrupt, particularly when hawking after its food. MONTAGU, in the Supplement to his Ornithological Dictionary, mentions a chace of this bird by a Peregrine Falcon, whose repeated pounces it foiled, and from whom it ultimately escaped, by the dexterity and singular quickness of its manœuvres.

PLATE 91. represents this species in both the Summer and Winter Plumage.

Head and neck entirely black. Breast, belly, and abdomen, deep blackish-grey. Under tail-coverts white. Upper plumage and tail deep bluish-grey. Two first primary quills having the extremity of the inner web edged with white. Bill about the length of the head, black. Legs and feet black, with a tinge of red; and with the membranes that connect the toes deeply scalloped.

General description.

Summer Plumage.

Crown of the head, and back part of the neck, white. The forehead, cheeks, throat, and fore-part of neck, pure white. The rest of the plumage as in summer. During the time of change, the forehead and throat are more or less spotted with black.

Winter plumage.

The Young, in addition to the white forehead and throat, have all the under plumage of a pure white; and on each side of the breast is a patch of blackish-grey. The crown of the head, nape of neck, and mark in front of the eyes, are black. Back and scapulars brown, tinged

Young.

with grey; the edges of the feathers being yellowish-white. Wing-coverts, rump, and tail, deep grey. Base of the bill reddish-brown. Feet and toes bluish-grey, tinged with flesh-red. In this state the present species appears to be *Variety A.* of the Sandwich Tern, in LATHAM'S Index Ornithologicus, the *Sterna Nævia* of GMELIN, and the *Guifette* of BUFFON.

GULL-BILLED TERN.

STERNA ANGLICA, Mont.

PLATE LXXXVIII. FIG. 1.

Sterna Anglica, Mont. Ornith. Dict. Sup. et Tab.—*Flem. Br. Anim.* 1. 143. No. 233.

Viralva Anglica, Steph. Shaw's Zool. 13. 174.

Sterna Aranea? *Wils.* Amer. Orn. 8. 158. pl. 72. f. 6.

Hirondelle de Mer Hansel, Temm. Man. d'Orn. 2. 744.

Marsh Tern, Wils. Amer. Orn. as above.

Gull-billed Tern, *Mont.* Orn. Dict. Sup. and Figure.—*Flem. Br. Anim.* 1. 143. No. 233.

Gull-billed *Viralve, Shaw's* Zool. 13. 174.

Rare visitant.

THE discovery of this species (which it seems, from resemblance in size and general appearance, had previously been confounded with the *Sterna Boysii* of Dr LATHAM), we owe to the discrimination of MONTAGU, who has pointed out its distinguishing characters, and given a figure of it in the Supplement to his Ornithological Dictionary. From the specific name of *Anglica* (rather inappropriately imposed by this author), it might be supposed a common and generally distributed bird throughout this country; but it is, on the contrary, one of our rarest species, and has hitherto been only occasionally met with on the southern coast of the kingdom, and never in any number together. In its habits it approaches nearer to the Black Tern than to the oceanic species previously described, preferring the lakes and rivers

of the interior to the open sea, and feeding on insects rather than on fish. On the European continent, it is abundant in Hungary (where it frequents the marshes, and the Lakes Neusidel and Platten), and on the confines of Turkey. Upon investigating specimens from North America, I feel no hesitation in considering the *Marsh Tern* of WILSON's North American Ornithology to be the same bird, although Mr ORB (in the eighth volume of that work), is inclined to regard it as distinct, in consequence of some difference between the length of the bill and tarsi, as expressed in a *drawing* of the *Sterna Aranea* that he examined, and the proportions of those parts in the first species, as given by MONTAGU and TEMMINCK. In this Tern the bill is thicker and stronger than in all the preceding ones, and the angle at the symphysis of the lower mandible more prominent, the tarsi are also longer; in all which particulars it shews a striking approach to the smaller species of the genus *Larus*, and thus forms a connecting link between the two genera. It breeds in the marshes, and on the edges of the lakes it inhabits, making no nest, but depositing on the bare ground three or four eggs of an oil-green colour, spotted with dark brown. It has not been known to breed in England, although most of the specimens hitherto obtained, as well as that described and figured by MONTAGU, were in the summer or nuptial plumage.

Food.

Incubation, &c.

PLATE 88. Fig. 1. represents this bird of the natural size, in the winter plumage.

Forehead and crown white, with the shafts of the feathers grey. Anterior angle of the eyes, and spot upon the auriculars, greyish-black. Upper parts deep pearl-grey. Quills grey, having a hoary appearance; the tips of the first five being blackish-grey. Under plumage white. Wings, when closed, extending upwards of two inches beyond the tail. Bill not quite one inch and a-half in length, and entirely black. Legs and toes

General description.

Winter plumage.

black, with a slight tinge of red. Tarsi one inch and three quarters long.

Summer
plumage.

In summer, the forehead, crown, and back part of the neck are deep black. In other respects there is no striking difference between that and the winter plumage.

GENUS LARUS, LINN. GULL.

GENERIC CHARACTERS.

BILL of mean length, strong, strait, cultrated ; the upper mandible having the tip incurved ; symphysis of the lower mandible strongly angulated, and ascending from thence to the point. Nostrils placed in the middle of the bill, lateral, oblong, narrow, and pervious. Tongue pointed, with the extreme tip cloven. Wings long, acuminate. Tail even, or slightly forked.

Legs placed near the centre or equilibrium of the body, of mean length and strength, with the lower part of the tibiae naked. Feet of four toes, three before and one behind ; the three front toes united by a membrane ; the hind one short and free, articulated upon the back part of the tarsus. Nails slightly falcate. Tarsi and upper part of the toes scutellated.

The passage from the Terns to the larger and more typical Gulls, is effected by certain small species of the latter genus, possessing a less robust bill, and slightly forked tail. In their changes of plumage also, they shew their connexion with the former birds, by the head becoming entirely or partly of a dark colour, as the season of reproduction approaches, and being more or less white during the rest of the year. In the larger Gulls the reverse takes place, the head and neck being of an unsullied white during the summer, and in winter being

streaked and varied with blackish-grey. The young of all the species are long in acquiring maturity, being one or two years in the smaller, and in the larger extending to the end of the third, before the plumage is fully perfected. During these periods the birds of the same year generally associate together, and the immature are but occasionally seen mixed with the adults. The Gulls have a very wide geographical distribution (as might be expected in a typical genus), and species are found in every division of the globe, and under a great variety of climate, although the larger ones are mostly inhabitants of the higher latitudes. Their apparent bulk greatly exceeds their actual weight, from the head being large, the wings long, and the body clothed with an abundance of down and feathers. They are endued with great power of flight, but more remarkably so for the length of time it can be sustained with little exertion of the pinions than for swiftness; and in this state, by keeping the head opposed to the current of air, they brave the severest storms with impunity. When in need of repose, they alight upon the surface of the ocean, where they float with much buoyancy, or, retiring to the beach, stand quietly, till again impelled by hunger to resume their circling flight. They are birds of voracious appetite, and devour greedily all kinds of animal matter; the larger Gulls subsisting upon the dead carcasses of whales, and other fish, crustaceæ, &c.; and the smaller upon marine worms, insects, and any refuse of the ocean, or production of the waters they frequent. Some of the species are accustomed to fly inland, feeding upon earth-worms, grubs, and slugs, as exemplified in the Common Mew (*Larus canus*). They breed together in large companies, and in various situations, according to the habits of the species; some, as the Kittiwake (*Larus rissa*), selecting the small ledges of perpendicular cliffs of rocks overhanging the ocean; others, as *Larus fuscus* and *L. argentatus*, choosing flat and exposed rocky islands; whilst others again, as *Larus ridibundus*, &c. retire to the marshes and pools of the

interior of the country, where they form their nests in the reeds and other aquatic herbage. In the Kittiwake an approach to the Petrels is perceptible in the imperfect development of the hind toe, and in the decidedly oceanic habits of the bird.

LITTLE GULL.

LARUS MINUTUS, Pall.

PLATE XCII.

- Larus minutus*, *Pall.* Reise, 3. 702. No. 35.—*Gmel.* Syst. 1. 595.—*Steph.* Shaw's Zool. 13. 206.—*Flem.* Br. Anim. 1. 142. No. 2. Straggler.
Larus atricilloides, *Gmel.* Syst. 1. 601.—*Lath.* Ind. Orn. 2. 813.
Mouette Pygmée, *Temm.* Man. d'Orn. 2. 787.
Die Kleine Meve, *Meyer*, Tasschenb. Deut. 2. 488.
Little Gull, *Lath.* Syn. 6. 391. 17.—*Mont.* Ornith. Dict. and Sup. App. to Sup.—*Shaw's* Zool. 13. 206.—*Bewick's* Br. Birds, ed. 1826, p. 226.

Occasional
visitant.

THE Little Gull, as its trivial name leads us to conclude, is one of the smallest of the genus, and was first noticed as an occasional visitant to the British coasts by MONTAGU, who, in the Appendix to the Supplement of his Ornithological Dictionary, has accurately described and given a figure of an individual that was killed upon the Thames near to Chelsea, but in an immature state of plumage, being that acquired at the first autumnal moult. Since that time other instances have occurred at different seasons, so as to exhibit it when arrived at maturity, both in the winter and summer plumage; and, to put us in possession of all the changes it undergoes, a bird of the year in its first plumage, and previous to the autumnal moult, was killed upon the Frith of Clyde, of which the second figure on the plate is a representation. This specimen, now in the Edinburgh College Museum, was at first ticketed as the *Gull-billed Tern*, but the error was subsequently discovered, and the nomenclature corrected.

The Little Gull is a native of the eastern parts of Europe, being a common and abundant species in Russia, Finland, the shores of the Caspian Sea, &c., and extends its range to Siberia, where it breeds. It frequents the lakes and rivers of the interior, as well as the sea-coast, and subsists upon worms, insects, and the fry of fish, in habits strongly resembling the other dark headed Gulls. It would also appear to be a native of America, a specimen having been obtained on Sir JOHN FRANKLIN's first expedition, which agreed in every respect with TEMMINCK's description of the young of this species. Food.

PLATE 92. Represents the Adult Bird in the winter plumage, from a beautiful specimen kindly lent to me for the purpose by Mr JOHN GOULD, and which was killed upon the Thames in January 1828. Figure of the natural size.

Forehead, face, throat, tail, and under plumage, pure white. Anterior angle of the eye, ear-coverts, nape and back part of the neck, deep blackish-grey. Upper plumage fine pearl-grey, the quills and secondaries tipped with white. Interior of the wings or under-coverts deep grey. Bill brownish-black, tinged with red. Legs and toes bright tile-red.	General description. Winter plumage.
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In summer the whole of the head and upper part of the neck become black, as in the next species (<i>Larus ridibundus</i> .) The white of the lower part of the neck, and of the under plumage, assumes a slight rosy tint; but the lower part of the back and the tail remain of a pure white. The bill also loses its brown tinge, becoming of an arterial blood-red colour, and the legs and toes acquire an additional intensity of hue.	Summer Plumage.
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Fig. 2. Is the young of the year, immediately previous to the autumnal moult.

Forehead and crown white, tinged with grey. Nape, and back part of the neck, and upper parts of the body, blackish-grey, tinged with clove-brown, the edges of the feathers being fringed with greyish-white. Scapulars edged with white. Greater coverts grey, deeply margined with white. First four primary quills having their outer webs and tips black, and the inner webs greyish-white. Under plumage white. Tail white for two-thirds of its length, terminated by a broad black bar, slightly *concave or forked*. Legs and toes livid or pale flesh-red. Two or three light grey feathers indicating the approaching change of plumage are seen upon the back; and this change, when perfected, brings the bird to the state of the *Little Gull* of MONTAGU, described as above mentioned, where the whole of the mantle and scapulars are stated to be of a "*fine cinereous grey*," like that of the Herring and most of the lighter-coloured Gulls.

BLACK-HEADED GULL.

LARUS RIDIBUNDUS, Linn.

PLATE XCII.

Larus ridibundus, Lath. Ind. Orn. 2. 811. 2.—*Shaw's Zool.* 13. 201. pl. 22.

—*Flem. Br. Anim.* 1. 141. No. 230.

La Mouette rieuse, ou à Capuchon brun, Temm. Man. d'Orn. 2. 780.

Schwarzköpfige Meve, Bechst. Naturg. Deut. 4. 635.—*Meyer*, Tasschenb. Deut. 482.

Black-headed Gull, Mont. in Linn. Trans. 7. 284.—*Mont.* Orn. Dict. and Sup. and App. to Sup.

Red-legged Gull, *Shaw's Zool.* 13. 201. pl. 22.

Laughing Gull, *Rennie's Mont.* Orn. Dict. 291.

Summer
Plumage.

Larus ridibundus, Linn. Syst. 1. 225. 9.—*Gmel.* Syst. 1. 601.
Gavia ridibunda Phœnicopos, Briss. 6. 197. 14.
Larus cinereus, Raii Syn. 128. A. 5.—*Will.* 264.
La Mouette rieuse, Buff. Ois. 8. 433.—*Id.* Pl. Enl. 970.
Brown-headed Gull, *Albin.* 2. tab. 86.
Black-headed Gull, Br. Zool. 2. 541. No. 252.—*Arct. Zool.* 2. No. 455.
Will. (Angl.) 347.—*Lath.* Syn. 6. 380. 9.—*Bewick's Br. Birds*, ed. 1826, p. t. 222.

Larus cinerarius, Linn. Syst. 1. 224. 4.—Gmel. Syst. 1. 597.

Larus albus major, Raii Syn. 129.—Will. 264.

La Petite Mouette cendrée, Buff. Ois. 8. 430.—Id. Pl. Enl. 969.

Greater White Gull of Belon, Will. (Angl.) 348.—Br. Zool. 542. No. 252 var. A.

Red-legged Gull, Lath. Syn. 6. 381. 10.—Bewick's Br. Birds, ed. 1826, p. t. 225.

Larus erythropus, Gmel. Syst. 1. 597.

Red-legged Gull, Penn. Arct. Zool. 2. 533.

Brown-headed Gull, Lath. Syn. 6. 383.

} Winter
Plumage.

} Young.

PROVINCIAL.—Pewit-Gull, Blackcap Gull, Black-head, Pick-mire,
Sea Crow, Mire Crow, Crocker.

THE changes that this Gull undergoes in attaining maturity, and those incidental to certain periods of the year, have been so clearly elucidated, and the synonyms of other authors who have described it so correctly collated by MONTAGU (in the Supplement to his Ornith. Diet. and the Appendix to the same), as to render it quite unnecessary for me to enter into any discussion respecting its identity under these different titles, except so far as to remark, that the *Sterna obscura* of GMELIN and others, which he thinks applicable to the present species, I consider as more so to the young of the Black Tern (*Sterna nigra*), an opinion I observe to be also adopted by TEMMINCK. The Black-headed Gull is one of our commonest species, and during the months of spring and summer leaves the sea-shore, its winter residence, and retires to the interior parts of the country, congregating in large bodies, which take up their abode amidst the pools and wet places of fenny districts, as well as on low islands, and on the margins of lakes or artificial ponds. In such situations, upon the tufts of rushes and other aquatic herbage, this bird makes its nest of decayed grass and other similar materials, and lays three or four eggs of a pale oil-green or wood-brown colour, blotched with black and grey. These are hatched early in June, or sometimes (in cases of a remarkably fine season) before the expiration of May. The young, when first excluded, are covered with a parti-coloured down of white, grey, and brown, and soon become fledged; insomuch, that I have seen flocks as early as on

Nest, &c.

Food.

the 22d day of June at a considerable distance from the nearest breeding-station, on their way to the coast or to other districts. During the breeding season, this Gull subsists upon earth-worms, slugs, and winged aquatic insects, which latter it is frequently seen pursuing and catching in its flight along the course of any river or smaller stream. When on the coast, it feeds more upon small fish, crustaceæ, &c., but even at this period is frequently observed in company with the Common Gull in fields adjoining the shore, and watching the upturning of the land by the ploughs, where it greedily devours the larvæ of the Cockchafer, and other coleopterous insects. The eggs of this bird are well-flavoured, having no fishy taste, and, when boiled hard, cannot easily be distinguished from those of the Lapwing, for which they are sometimes substituted. The young are also eaten, although not held in such estimation as we are told they formerly were, when great numbers were annually taken and fattened for the table, and when the *Gullery* (or summer resort of this species) produced a revenue of from L. 50 to L. 80 per annum to the proprietor. These birds are very regular in their *migratory* movements (for such their departure to and from the sea-coast may properly be termed), and I am informed by a gentleman upon whose property is a piece of water annually visited by a considerable colony, that their return in spring may almost be calculated upon to a day. In Northumberland they have for many years past enlivened the precincts of a large pond at Pallinsburn, the seat of A. ASKEW, Esq., from whence flocks (in consequence of the increase produced by the protection afforded during the breeding season) have at different times detached themselves to such other situations in the neighbourhood as possessed suitable facilities for reproduction. The note of the Black-headed Gull is a hoarse cackle, which, from its effect when quickly repeated, has been compared to a laugh, and has given rise to its specific appellation. Its flight is easy and buoyant, and when on wing it is readily distinguished from

any of the other species by the whiteness of the middle part of its primary quills.

PLATE 92. Represents this bird of the natural size, and in the summer or nuptial plumage.

Head, chin, and throat, dark hair-brown. At the posterior angle of the eye is a spot of white. Eyelids and bill deep crimson-red, the latter measuring one inch and two-eighths from the forehead to the tip. Mantle, scapulars, and lesser wing-coverts pale pearl-grey. Outer border of the wings, greater coverts, rump, and tail, pure white. First quill-feather having the lower part of the outer web, the tip, and outer margin of the inner web, black; the rest of it white. The three next quills have the greater part of their outer webs white; their ends (except the extreme point, which is white) and half their inner webs, black, passing into blackish-grey near the bases of the feathers. The remainder of the quills are pearl-grey, marked with black, as in the preceding. Under plumage white, having, in some specimens, a slight rosy tint. Legs and toes deep arterial blood-red.

General
description.
Summer
Plumage.

In winter, or after casting the hair-brown hood, the head and throat are of a pure white, except a small spot of blackish-grey at the anterior angle of each eye, and another of the same colour upon the auriculars. The bill and legs also lose a little of the intensity of hue that distinguishes them in summer.

Winter
Plumage.

The young of the year, previous to the autumnal moult, have the head and occiput of a yellowish-brown, and the auriculars and space behind the eyes white. Lower part of the neck and under plumage white, with a faint blush of pink. Mantle, scapulars, and lesser wing-coverts broccoli-brown, the feathers being edged with pale yellowish-brown. Lower part of the back, and basal part of the tail, white, with a broad bar of clove-brown

Young.

occupying the tips of the feathers. Greater wing-coverts grey. Quills having their outer webs and tips black, their inner ones white. Outer ridge of the wings white. Base of the bill grey, tinged with flesh-red, the point darker. Feet and toes yellowish-grey.

After the autumnal moult the head becomes white, streaked with grey, and the spots before each eye, and upon the ear-coverts a deep clove-brown. The mantle acquires the pearl-grey tint; but the wing-coverts continue to be varied with brown and yellowish-white. The tail also retains the dark bar at its tip.

COMMON GULL.

LARUS CANUS, Linn.

PLATE XCIII.

- | | |
|--------------------------|--|
| Adult in Summer plumage. | <p><i>Larus canus</i>, Linn. Syst. 1. 224. 3.—Gmel. Syst. 1. 596.—Lath. Ind. Orn. 2. 815. sp. 9.—Steph. Shaw's Zool. 13. 198.—Flem. Br. Anim. 1. 140. No. 228.—Faun. Amer. Boreal. 2. 420. No. 185.</p> <p><i>Larus cinereus minor</i>, Raii Syn. 127. A. 3.—Will. 262. t. 76.</p> <p><i>Gavia cinerea</i>, Briss. Orn. 6. 175. 8. t. 16. f. 1.</p> <p>Mouette à pieds bleus, Temm. Man. d'Ornith. 2. 771.—Cuv. Reg. Anim. 1. 519.</p> <p>Sturm-meve, Meyer, Tasschenb. Deut. 2. 475.</p> <p>Common Gull, Br. Zool. 2. 538. No. 249.—Arct. Zool. 2. No. 458.—Will. (Angl.) 345. t. 76.—Lath. Syn. 6. 378. 8.—Lewin's Br. Birds, 6. pl. 215.—Mont. Ornith. Dict. and Sup.—Shaw's Zool. 13. 198.</p> <p>Gull, Rennie's Mont. Orn. Dict. 234.</p> |
| Winter plumage. | <p>Common Gull, Bewick's Br. Birds, ed. 1826, p. t. 216.</p> <p>Mouette à pieds bleus, ou Grand Mouette cendrée, Buff. Ois. 8. 428.—Id. Pl. Enl. 977.</p> |
| Young after first moult. | <p><i>Larus hybernus</i>, Gmel. Syst. 1. 596.</p> <p><i>Gavia hyberna</i>, Briss. 6. 189. 12.</p> <p><i>Larus fuscus</i>, seu <i>hybernus</i>, Raii Syn. 130. A. 14.—Will. 266. t. 66.</p> <p>La Mouette d'Hiver, Buff. Ois. 8. 437.</p> <p>Winter Mew, or Cuddy-moddy, Penn. Br. Zool. 2. 537. No. 248.—Will. (Angl.) 350. t. 66.—Albin's Birds, 2. pl. 87.—Lath. Syn. 6. 384. 13.—Lewin's Br. Birds, 6. pl. 210.—Mont. Orn. Dict. and Sup.</p> |

PROVINCIAL—Sca-Mall, Sea-Mew.

IN dimensions, the Common Gull rather exceeds the preceding species, being about sixteen inches long, whereas the

other measures scarcely more than fourteen. The tarsi and the naked part of the tibiæ are also longer, and the bill, which is deeper and more compressed, has the angle of the lower mandible more conspicuously prominent, in which points it shews a closer affinity to the larger species of Gulls. It is very generally distributed throughout the kingdom, and is perhaps more numerous than the Black-headed Gull, though the supposition may in part arise from its habit of frequenting the interior of the country almost through the whole year in search of worms, the larvæ of coleopterous insects, and other similar food, by which it is brought oftener under observation, and in districts but seldom visited by the other species. Besides this mode of subsistence, it preys (when residing upon the coast) upon fish, crustacæ, and molluscous shell-fish; and, to prove its omnivorous appetite, it will (when in a confined state, which it bears without impatience) eat bread, and MONTAGU mentions that one which he kept for some years, in defect of fish or worms, would pick up dry grain. It breeds upon the coast on rocks overhanging the sea, and sometimes on islands, or on the shores of lakes, as I have found, in two or three instances, in the Western Highlands of Scotland. At St Abb's Head, a bold and rocky headland of Berwickshire, these birds are very numerous during the breeding-season, and occupy the whole face of the cliff. This is at no great distance from the Fern Islands, yet they are never known to haunt that locality, the resort of their congener the Lesser Black-backed Gull, and of several species of Terns.—The nest is formed of sea-weed, dry sea-grass, &c., and the eggs, two or sometimes three in number, are of a pale oil-green or a yellowish-white colour, blotched irregularly with blackish-brown and grey. This species requires two years to attain maturity, the plumage of the first year resembling that of some of the larger Gulls, viz. clove-brown, having the feathers edged with yellowish or greyish-white, and the tail terminated by a broad black bar. This livery at each moult gradually gives place to the pure

Food.

Nest, &c.

white and pearl-grey, the characteristic colours of the adult bird, and the change is completed as soon as the caudal band is entirely obliterated. The Common Gull has a wide geographical distribution, and during the summer is met with in most of the arctic regions, inhabiting, according to Dr RICHARDSON, those of North America, as well as of the European and Asiatic continents. In winter it quits the higher latitudes, and migrates southward, spreading its numbers along the coasts of a large proportion of the temperate parts of Europe.

PLATE 93. Represents this bird in the adult state, and in its winter plumage.

General
descrip-
tion.

Bill about one inch and a half long, bluish-green at the base, passing into ochre-yellow towards the point, with the gape orange-red, and the naked circle round each eye reddish-brown. Head, occiput, nape, and sides of the neck, white, streaked with broccoli-brown. Under plumage, rump, and tail, pure white. Mantle, scapulars, and wing-coverts, fine pearl-grey. Greater quills black towards their tips, which are white, the two first having also a large white spot within the black. Legs and feet greenish-grey, with a tinge of flesh-red.

Winter
Plumage.

Summer
Plumage.

In the spring the head and neck lose the streaks of brown, and become of an immaculate white. The bill changes to a deeper yellow, and the eyelids assume a bright vermilion-red colour. In other respects the plumage remains as in winter.

Young.

The young, when they first take wing, have the chin white, and the head, neck, and under plumage, greyish-white, marbled with pale clove-brown. In front of the eyes is a patch of deep clove-brown. Upper plumage clove-brown, each feather being edged with greyish-white, and upon the wing-coverts with yellowish-white. Greater wing-coverts and quills blackish-grey. Rump and basal part of the tail, white, the other part black,

with a greyish-white termination. Legs and toes greyish-white, tinged with flesh-red. Base of the bill livid, or flesh-red; the tip blackish-brown.

After the first autumnal moult, a few grey feathers appear upon the mantle, and the greater wing-coverts acquire the same tint. The head and under parts become whiter, the crown, the back part of the neck, the breast, and flanks remaining streaked with pale clove-brown. After the second autumnal moult, the mantle acquires its permanent pearl-grey colour, and the quills their characteristic markings; but some clove-brown spots remain upon the wing-coverts, and the caudal bar is still distinguishable. These signs of immaturity disappear at the next vernal moult, after which the bird merely undergoes the mature changes incident to the seasons of the year.

KITTIWAKE.

LARUS RISSA, *Linn.*

PLATE XCIV.

- Larus Rissa*, *Linn.* Syst. 1. 224. 1.—*Gmel.* Syst. 1. 594.—*Flem.* Br. Anim. 1. 141. No. 229.
Larus tridactylus, *Lath.* Ind. Ornith. 2. 817. 11.—*Faun.* Amer. Boreal. 2. 423. No. 188.
Rissa Brunnichii, *Steph.* Shaw's Zool. 13. 181. pl. 21.
Mouette Tridactyle, *Temm.* Man. d'Ornith. 2. 774.
Kittiwake, *Penn.* Br. Zool. 2. 539. No. 250.—*Arct.* Zool. 2. No. 456.—*Lath.* Syn. 6. 393. 19.—*Mont.* Orn. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826, p. 3. 218.
Brunnich's Kittiwake, *Shaw's* Zool. 13. 181. pl. 21.
Larus Tridactylus, *Linn.* Syst. 1. 224. 2.—*Gmel.* Syst. 1. 595.
Gavia cinerea, *Briss.* Orn. 6. 185. 11. t. 17. f. 2.
La Mouette cendrée tachetée, *Buff.* Ois. 8. 424.—*Id.* Pl. Enl. 387.
Tarrock, *Penn.* Br. Zool. 2. 540. No. 251.—*Arct.* Zool. 2. 533.—*Lath.* Syn. 6. 392.—*Id.* Sup. 208.—*Lewin's* Br. Birds, 6. pl. 213.—*Mont.* Ornith. Dict.
Young Kittiwake, *Bewick's* Br. Birds, p. t. 220.

Old in all
states of
plumage.

PROVINCIAL.—Annet, Kishifauk.

Periodical
visitant.

Dr FLEMING, in his History of British Animals, has given the Kittiwake as a resident species, but has not mentioned any authority for the statement. My own observations, I must confess, are at variance with this assertion, nor do I find that it has been admitted as such by any other of our ornithological writers. It appears, on the contrary, to be a summer visitant, making its first appearance upon our coasts about the end of April, and departing soon after the duties of reproduction have been effected, that is, in the early autumnal months. Its distribution, during its sojourn with us, is confined to the coast of Scotland and some of the northern English counties, and, from the facts I have been able to collect, it seems to be more abundant upon the eastern than on the opposite side of the kingdom, which may perhaps be attributed to the line of its migrative flight from the eastern parts of Europe, to which shores the great body of those that breed here seem to retire in winter. In the south of England it is of very rare occurrence, and MONTAGU mentions only two instances in which it had come under his observation. It is a bird of wide distribution, extending over the greater part of Europe up to very high latitudes, over the northern regions of Asia, a great portion of the North American continent (where RICHARDSON says it abounds on the lakes in the interior of the fur countries), and the coasts of the Pacific, as well as the shores of the Arctic Seas, to which latter it annually retires to breed. It differs from the more typical Gulls in the imperfect development of its hind toe, which is small, and without any claw, on which account it has been made the type of a genus called *Rissa* by Mr STEPHENS. The tarsi are also shorter and weaker in proportion to its bulk, and the legs are placed further behind the centre of the body, in which points it approaches to the Petrels, and connects the Gulls more immediately with that group. Its habits are also rather similar to the former, for unlike to *Larus canus*, *L. ridibundus*, and some others, it never advances inland in search of worms, grubs, &c., but procures

the whole of its subsistence, being fish, crustaceæ, and other aquatic animal food, from the element over which it is seen almost constantly sporting. From the shortness and position of its legs it is unable to walk or run upon land with the same ease as its congeners, on which account, added to the necessity of supplying it with a fish diet, I have found it more difficult to be kept in a state of confinement than any of the others. Great numbers of this species breed upon the Bass Rock in the Frith of Forth, on Fowls-Heugh near Stonehaven, and other precipitous rocks on the eastern coast of Scotland. In England they breed at Flamborough Head in Yorkshire, and at the Fern Islands on the Northumbrian coasts, where they select the small clefts and narrow ledges of the perpendicular and detached basaltic rocks, called *The Pinnacles*, whose summits are occupied by the Guillemot and Razor-Bill. Upon these, although in many instances not above a hand's-breadth wide, they build their nests (of sea-grass and other dry materials), and rear their young in security. The latter seem to be instinctively aware of their perilous situation, where sometimes the least movement would precipitate them into the waves beneath, and are observed seldom to change their attitude in the nest till sufficiently fledged to be enabled to provide for their own safety. The eggs, usually two in number, are of a greyish-white, slightly tinged with wood-brown, and blotched with dark or blackish brown and purplish-grey. During incubation the females are very tame, and will sit upon their eggs or callow young, though closely approached; at the same time the males continue to fly round in circles, uttering the frequently repeated cry, from the sound of which they have obtained their common English name *Kittiwake*. In the young state this bird was formerly called the *Tarrock*, which was considered to be a distinct species; but its history is now better known, and the changes it undergoes from its earliest age to maturity (which is not attained till after the second autumnal moult) have been correctly ascertained.

Food.

Nest, &c.

PLATE 94. Fig. 1. Represents the Adult Bird in summer plumage.

General
description.
Adult
Bird.
Summer
Plumage.

Bill one inch and a half long from the forehead to the tip, to which latter it arches gradually; of an intermediate colour between lemon and wax-yellow. Gape reddish-orange. Orbits of the eyes the same. Head, neck, under plumage, and tail, pure white. Mantle, scapulars, back, and wing-coverts, fine pearl-grey. Exterior quill, having the whole of its outer web and the end, black, the second with the end and greater part of the outer web the same; the third with its end and but a small part of its outer web the same; the fourth and fifth having the ends only black, and being terminated by a small spot of white. Legs and toes greenish-black.

Fig. 2. Represents this Gull after the first autumnal moult.

Yearling
Bird.

Auriculars, hind part of the head, and spot in front of the eyes, blackish-grey. Chin and under parts white. Mantle deep pearl-grey. Wing-coverts (particularly near the ridge of the wing and the shoulders) spotted with clove-brown. The three first quill-feathers black, except where a band of white margins the inner webs. Tail having the outmost feathers on each side white, the rest with a blackish-brown bar at the tip, about three quarters of an inch in width. Bill tinged with blackish-green. Legs and toes deep oil-green.

Young.

The young of the year, that is, before the first general moult, have the spot in front of the eyes, the auriculars, and the nuchal crescent, deep blackish-grey. The back deep pearl-grey. The upper ridge of the wing greyish-black. The scapulars and tertials, with part of their outer webs, black. Tail, with the exception of the outmost feather on each side, having a broad black bar along its end. Bill black. In this state, or a little farther advanced in age, it is figured in the later editions of BEWICK's British Birds.

IVORY GULL.

LARUS EBURNEUS, Gmel.

PLATE XCIV. *

Larus chburneus, Gmel. Syst. 1. 596. — *Lath. Ind. Orn.* 2. 816. sp. 10. — *Edmonst.* in Mem. of Wern. Soc. 4. 561. — *Sabine* in Trans. Linn. Soc. 12. 548. — *Steph. Shaw's Zool.* 13. 195.

Larus candidus, Flem. Br. Anim. 1. 142. No. 3.

La Mouette Blanche, Buff. Ois. 8. 422. — *Id. Pl. Enl.* 994.

Mouette Blanche, ou Sénateur, Temm. Man. d'Ornith. 2. 769.

Senator, Ray's Syn. 126. 1.

Ivory Gull, Penn. Arct. Zool. 2. 457. — *Lath. Syn.* 6. 377. — *Shaw's Zool.* 13. 195. — *Bewick's Br. Birds*, ed. 1826, p. t. 214.

THE immaculate white which distinguishes the adult plumage of the Ivory Gull, renders it one of the most beautiful of the genus. In this country it is only known as a rare visitant, and the first authenticated instance of its capture is that mentioned by LAURENCE EDMONSTON, Esq. as published in the fourth volume of the Memoirs of the Wernerian Society, where the bird (which appears to have been one of the second year) is stated to have been shot in Balta Sound, Shetland, in December 1822. Since that time it has been killed, also in an immature state, in the Frith of Clyde. It is a native of the northern Arctic Regions, and is found in very high latitudes, being common in Greenland and Spitzbergen, where it breeds upon the rocks and cliffs that overhang the sea. Captain SABINE states it to be abundant in Baffin's Bay, and Dr RICHARDSON also mentions it as frequenting Davis's Straits, and that it was discovered breeding in great numbers on the high perforated cliffs that form the extremity of Cape Parry in latitude 70°. Except during the breeding season, it is generally seen out at sea, often in company with the Fulmar, and is observed to be, like it, a constant attendant upon the whale-fishery, greedily feeding upon the blubber, which, with other carrion and animal matter, constitutes its food. It is stated to possess little of that shy

Rare visitant.

Food.

disposition for which so many of the tribe are remarkable, admitting of a near approach, particularly when engaged in feeding, and is therefore easily killed. Its voice is strong and harsh. The colour of its eggs remain undescribed.

PLATE 94 *. Represents an adult bird of the natural size.

General
description.
Adult
Bird.

Bill stout, measuring from the forehead to the tip one inch and three quarters; wax-yellow at the base, passing towards the point into ochre-yellow. Orbits of the eyes red. Legs black, with the tibiae feathered nearly to the tarsal joint. Hind part of the tarsi covered with rough scales. Membranes of the toes deeply scalloped. Hind toe short, with a strong nail. Entire plumage pure snow-white. Wings, when closed, extending beyond the tip of the tail.

Young.

In the young state, the forehead, region of the eyes, and chin, are blackish-grey. Back, scapulars, and wing-coverts, white, spotted and barred with brown. The ends of the primary quills, and tip of the tail, are barred with the same. As the bird advances in age, the brown spots and bars gradually decrease at each moult, and it is supposed to be perfectly matured in two years and a half.

GLAUCOUS GULL.

LARUS GLAUCUS, *Brumm.*

PLATE XCIX.

Larus glaucus, *Brumm.* Orn. Boreal. No. 148.—*Gmel.* Syst. 1. 600.—*Lath.* Ind. Orn. 2. 814. sp. 7.—*Sabine* in *Linn.* Trans. 12. 543. No. 19.—*Steph.* Shaw's Zool. 13. 189.—*Flem.* Br. Anim. 1. 139. No. 223.—*Faun.* Amer. Boreal. 2. 416. No. 181.

Le Burgermeister, *Buff.* Ois. 3. 418.

Goëland Burgermeister, *Temm.* Man. d'Orn. 2. 757.

Weisschwinge Mevc, *Bechst.* Naturg. Deut. 4. 662.

Glaucous Gull, *Penn.* Arct. Zool. 2. 532. 13.—*Id.* Sup. 70.—*Lath.* Syn. 6. 374. 4.—*Bewick's* Br. Birds, ed. 1826, p. t. 209. and Young, p. t. 212.—*Shaw's* Zool. 13. 189.

Burgermeister Gull, *Flem.* Br. Anim. 1. 139. No. 223.

Iceland Gull, *Edmonston* in *Mem.* of *Wern. Soc.* 4. 176. and 503.

THIS large and powerful species was first noticed as a winter visitant in Shetland in 1809, by LAURENCE EDMONSTON, Esq., who afterwards published an interesting account of its habits and distinguishing characters in the fourth volume of the Memoirs of the Wernerian Society, to which paper, from its length, I beg to refer my readers. Subsequent observation has proved it to be not uncommon in that remote district, both in the immature and perfect state, during the winter; but it regularly migrates on the advance of spring to higher northern latitudes, for the purpose of reproduction. It occasionally extends its equatorial flight as far to the southward as the Northumbrian coast, where several have at different times come under my inspection in a recent state. These, with the exception of one in the adult winter plumage (now in my collection), have all been young birds; some, from their spotted and brown appearance, the young of the year; others, where the markings had become fainter, and the ground of a purer white; such as had undergone one or perhaps two autumnal moultings. The Glaucous Gull is pronounced by TEMMINCK to be the largest of the tribe, but my own measurements of several individuals, with the testimony of Captain SABINE and other writers who have described the species, shew that its average dimensions in length and extent of wing are inferior to those of the Great Black-backed Gull (*Larus marinus*). Its form is perhaps thicker and more compact, and its weight may sometimes exceed that of the other; though I possess a specimen of the latter bird which weighed two ounces more than any of the Glaucous Gulls that have come under my observation. By Dr RICHARDSON it is described as a common species during the summer, in Greenland, Baffin's Bay, and the Polar Seas, where it breeds upon the precipitous rocks which line those coasts. Its eggs are stated to be of a pale purplish-grey, with scattered spots of umber-brown and subdued lavender-purple. It is a bird of voracious appetite, and preys not only upon fish and the smaller water-fowl, but

Periodical
visitant.

Eggs.

Food. devours carrion and offal of every kind. A young bird, now in my collection, was killed upwards of a mile inland, feeding upon the carcass of a dead horse. Its swallow is also very capacious, as appears from the fact, that an individual of this species, killed during Captain Ross's expedition, disgorged a Little Auk when it was struck, and, on dissection, another was found in its stomach. When at rest, and not excited by the cravings of hunger, its manner is grave and silent, not exhibiting the vivacity and clamorousness that distinguish many of the other species; but though apparently inactive, it is still wary in permitting a near approach, in general keeping carefully out of the range of gunshot. Its flight is easy and graceful, appearing even more buoyant than that of other Gulls, which Mr EDMONSTON is inclined to attribute to the position in which the wings are kept, as they seem, when in action, to be more extended than in the other species. When roused, it soars at a respectful distance round the object of its alarm, uttering at intervals a loud and hoarse scream, easily distinguishable from that of the Black-backed Gull, or of its other nearly allied congeners. In Shetland the young of this, as well as of the next species, are indiscriminately called *Iceland*. *Scorie* (that is, young Iceland Gull).

PLATE 99. represents the mature Bird in winter plumage, and of the natural size, from a specimen killed on the coast near Holy Island, in February 1830.

General
description.

Adult bird.
Winter
plumage.

Bill, from the forehead to the tip, two inches and a half long; wine-yellow, with the angular projection of the lower mandible arterial blood-red. Head and neck white, streaked with pale clove-brown, but having the chin immaculate. Under plumage, rump, tail, tips of the secondaries, tertials, and greater quills, pure white, with a silky lustre. Mantle, wing-coverts, and basal part of the quills fine pearl-grey. Legs and toes livid flesh-red. Wings, when closed, not reaching to the end of the tail.

In summer the head and neck are pure white ; the grey Summer streaks disappearing on the approach of spring. plumage

In the young state the ground colour of the plumage is a Young greyish-white, with a slight tinge of wood-brown, barred and spotted all over with grey or broccoli-brown. Tail irregularly spotted with pale brown. The shafts of the primaries *white*, and the whole of the webs greyish-white. Bill livid at the base, and the tip blackish-brown. Legs and feet pale flesh-coloured red.

After the second moult the ground of the plumage becomes whiter, and the spots and bars decrease in size and hue. The next change produces some of the pearl-grey feathers upon the mantle, and the under plumage and tail become white. At the succeeding moult, that is, at the age of three years, the bird is matured, and undergoes no further change, except the periodical one, upon the head and neck.

ICELAND GULL.

LARUS ISLANDICUS, *Edmonston*.

PLATE XCVIII.

Larus islandicus, *Edmonston*, in Mem. of Wern. Nat. Hist. Soc. 4. 506.
—*Flem. Br. Anim.* i. 139. No. 224.

Larus argentatus, an Arctic var. *Sabine*, in Trans. Linn. Soc. 12. 546. No. 20.—*Temm. Man. d'Ornith.* 2. 764. “un variété qui paraît propre aux contrées polaires.”

Larus leucopterus, *Bonap.* Syn. No. 301.—Faun. Amer. Boréal. 2. 418. No. 183.

Larus arcticus, *Macgillivray*, Trans. Wern. Soc. 5. 268.

Larus glaucoides, *Temm. Man.*

White-winged Silvery Gull, *Richardson and Swainson*.

Iceland Gull, *Flem. Br. Anim.* 1. 139. No. 224.

IN MR EDMONSTON'S first notice of the *Glaucous Gull*, under the name *Larus islandicus*, a suspicion is started, from the difference of size existing between individuals of the newly observed kind, that there might be two species, having such a rela- Periodical
visitant.

tion to each other as that between the Greater and Lesser Black-backed Gulls (*L. marinus* and *L. fuscus*). This, upon further investigation, was found to be actually the case; and some interesting remarks upon the new species, by the same gentleman, were afterwards published in the latter part of the fourth volume of the Wernerian Society's Memoirs, where he has appropriated to it the specific title of *Islandicus*, having then ascertained that the larger species previously noticed, and to which he had applied the term, was already recorded, and generally known by the name of *Larus glaucus*. In point of priority, therefore, this name ought to be adopted for the present species, in preference to that of *Larus arcticus* given to it by Mr MACGILLIVRAY, or that of *L. leucopterus*, under which it is described by RICHARDSON and SWAINSON, in the Fauna Americana Borealis, and by the Prince of Musignano, in his Synopsis. Captain SABINE, in his Memoir on the Birds of Greenland, in the twelfth volume of the Linnean Transactions, has described the same bird under the title of *Larus argentatus*, and this in deference to the opinion of Monsieur TEMMINCK, who at that time considered it as a variety of the *Herring Gull*, occasioned by the rigours of a polar climate. The fact, however, of the true *L. argentatus* having been found with its characteristic markings unchanged in those regions, together with the perfect and undeviating whiteness of the wings of the other bird, and the difference of proportions observable in the bills of the two species, might justly have made the former author hesitate before yielding even to the authority of a naturalist so deservedly eminent. The present species, in all its states of plumage from adolescence to maturity, bears the closest resemblance to the Glaucous Gull, and can only be distinguished by its striking inferiority of size, and by the greater length of its wings, which reach, when closed, upwards of an inch beyond the end of the tail; whereas in the other bird they scarcely reach that part. Like its prototype it is a winter visitant to the Shetland Isles and the northern parts

of Scotland, and a few occasionally stray as far southward as the Northumbrian coast, where I have obtained three or four specimens, but all in the immature plumage. Its habits are stated by Mr EDMONSTON to be more lively and active than those of the Glaucous Gull, and it displays more elegance of form. It is a common species in the Arctic Regions, and is mentioned by SABINE and RICHARDSON as being plentiful in Baffin's Bay, Davis Straits, and Melville Island. It is also common upon the Iceland coast, to which it is probable many of those that winter with us, and in similar latitudes, retire to breed. It feeds upon fish, the flesh of whales, and other carrion, and when upon our shores, is sometimes seen in company with the Black-backed Gull. Food.

PLATE 98. represents the immature Bird of the natural size, from a specimen obtained on the Northumbrian coast.

Bill, from the division of the feathers upon the forehead to the tip, two inches long; pale flesh-red, or livid, at the base, with the tip blackish, or dark horn colour. Ground colour of the entire plumage pale yellowish-grey; the feathers being barred and mottled with pale broccoli-brown. Quills greyish-white, with a slight tinge of broccoli-brown. Tail pale broccoli-brown, marbled with white. Legs and toes pale livid flesh-red. Tarsi two inches and a quarter long. Irides pale yellowish-grey.

General description.
Immature bird.

Another specimen in my collection, that was killed in February 1832, has the ground colour of the plumage nearly white. Head and neck faintly rayed with very pale broccoli-brown. Wing-coverts and back varied with broccoli-brown, but with the bars narrower, and at greater distances than in the bird described above. Quills nearly pure white. Tail white, varied with irregular streaks and bars of broccoli-brown. The under plumage marbled with pale broccoli-brown and white. Bill, legs, and

feet as in the former. This appears to be a bird that has undergone two general autumnal moultings.

Adult. The mature plumage resembles that of the Glaucous Gull; the head, neck, tail, and under parts being of a pure white. Mantle and wing-coverts pale pearl-grey. Quills with their shafts and tips pure white, passing into pale pearl-grey towards the base. In winter the head and neck become streaked with grey.

HERRING GULL.

LARUS ARGENTATUS, Brunn.

PLATES XCVI. AND XCVI*.

Larus argentatus, Brunn. Orn. Boreal. No. 149.—*Gmel.* Syst. 1. 600. sp. 18.—*Flem.* Br. Anim. 1. 140. No. 227.—*Shaw's Zool.* 13. 148, but not all the synonyms, some of them belonging to the Iceland Gull.

Larus glaucus, Temm. Man. d'Ornith. 1st ed. 493.

Larus marinus, var. B. Lath. Ind. Orn. 2. 814. sp. 6.

Le Goëland à Manteau gris et blanc, *Buff.* Ois. II. 421.

Goeland à Manteau Bleu, *Temm.* Man. d'Orn. 2. 764.

Weissgraue Meve, *Meyer,* Tasschenb. Deut. 2. 471.

Herring Gull, *Penn.* Br. Zool. 2. 535. No. 246. pl. 88, but not the synonyms.—*Mont.* Orn. Dict. and Sup. but not the synonyms, which belong to the Lesser Black-backed Gull.—*Bewick's* Br. Birds, ed. 1826, pt. 207.—*Rennie's* Mont. Orn. Dict. but not the synonyms.—*Flem.* Br. Anim. 1. 140. No. 227.

Silvery Gull, *Penn.* Arct. Zool. 2. 533. 6.—*Lath.* Syn. 6. 375.

Wagel Gull, Br. Zool. 2. 536. No. 247. A. pl. 88.—*Will.* (Angl.) 349. t. 66*.

ALTHOUGH the Herring Gull is an indigenous, and, upon many parts of our coast, a common species, its history has been involved in much confusion, by PENNANT, MONTAGU, and others, having mistaken for it (and quoted as a synonym) the *Larus fuscus* of LINNÆUS, which, from the specific character of "*pedibus flavis*," clearly refers to the Lesser

* This name is also applied to the young of the Greater and Lesser Black-backed Gulls; all of them bearing a near resemblance to each other in the immature plumage.

Black-backed Gull. LATHAM, in his *Index Ornithologicus*, has unfortunately added to this confusion, by adopting the *Herring Gull* of the *British Zoology* as a synonym of *L. fuscus*, and describing the *L. argentatus* of BRUNNICH (the true Herring Gull), as merely a variety of the Greater Black-backed Gull (*Larus marinus*). This misapplication of terms has been rectified by TEMMINCK, in the second edition of his “*Manuel d’Ornithologie*,” and by Dr FLEMING, in his *History of British Animals*, where the distinctive characters of each are satisfactorily pointed out.—The partial distribution of the various species of Gulls, especially during the breeding season, cannot have escaped the notice of those interested in ornithological pursuits; and to this must be attributed the comparative rarity of the present species upon the Northumbrian coast, where, however, its place is amply supplied by the Lesser Black-backed Gull. On the western side of the island, particularly on the coast of Wales, and along the Bristol Channel, the Herring Gull is, on the contrary (as we learn from MONTAGU), the predominant species, being to *L. fuscus* in the proportion of fifty to one. It there breeds in immense numbers, in an island off St David’s Headland, placing its nest, which is composed of dried grasses, among the herbage and loose stones. The eggs, two or three in number, are of a deep oil-green, blotched and spotted with blackish-brown. Like the other large Gulls, it feeds upon fish, and other marine produce, such as star-fish, crabs, and various crustaceæ; and is observed to trample the soft sand, by moving its feet alternately on the same spot, in order to bring to the surface the shrimps and worms from beneath. It also devours the eggs of the other sea-fowl; and upon the Fern Islands I have almost annually observed two or three of these birds, apparently barren, that subsisted by plundering the nests of its congeners, and the Terns, Guillemots, &c., on which account the name of the *Egg-Gull* has been there bestowed. Dr FLEMING mentions having found a quantity of *wheat* in the stomach of a bird of this species.

Nest, &c.

Food.

When arrived at maturity, which is not till after the third year, the cry of the Herring Gull, particularly during the breeding season, is very loud and piercing, and very unlike that of *L. fuscus*; is readily uttered upon any alarm, and promptly attended to as a signal by all other birds within hearing. If taken when young, or even afterwards, it soon becomes reconciled to confinement, and will grow tame; in which state it can accommodate itself to a diet of worms, raw flesh, or any other animal matter. It is numerous scattered throughout a great part of Europe, especially on the coasts of our own island, Holland, and France; but in the high northern latitudes is of rarer occurrence than many of the other Gulls.

PLATE 96*. represents this species of the natural size, and in the summer plumage.

General
descrip-
tion.

Adult bird.

Bill, from the division of the feathers on the forehead to the tip, two inches and one-eighth long; colour ochre-yellow. The angle of the lower mandible orange-red. Orbits of the eyes orange. Head, neck, whole of under plumage, tail, and ridge of each wing, pure white. The six greater quills crossed by a black bar, which in the first occupies three-fourths of the quill, but becomes rapidly narrower through the rest, and is scarcely an inch broad upon the sixth. First quill having a white tip (for two inches in some specimens), marked with a small black spot on each web near the extreme point; the second with two spots on each side of the shaft, its tips and those of the next four quills being white. Tertiaries and secondaries tipped with white. Irides pale gamboge-yellow. Legs and feet pale ash-grey, tinged with flesh-red. Tarsus about two inches and a-half in length.

PLATE 96. represents the immature Bird.

Young.
First year.

Bill blackish-grey. Irides dark. Head, neck, and under plumage greyish-white, streaked and marbled with pale

broccoli-brown; the chin almost immaculate, and of a purer white. Upper plumage a mixture of grey, clove-brown, and pale wood-brown. Quills *uniform greyish-black*. Tail having its base marbled with white and clove-brown, the remainder plain clove-brown, with the exception of the extreme tip, which is white. Legs and toes pale flesh-red.

After the second general moult the markings are the same, but paler; and the basal part of the tail whiter. Second Year.

At the succeeding moult, the pale grey or mature feather begin to shew themselves upon the mantle, and the tail feathers nearly lose the black bar. The bill and irides also gradually change colour to those of the adult bird. During the first and second years it is very difficult to distinguish this and the young of the Lesser Black-backed species from each other. Third Year.

GREAT BLACK-BACKED GULL.

LARUS MARINUS, Linn.

PLATE XCVII.

Larus marinus, *Linn.* Syst. 1. 225. 6.—*Gmel.* Syst. 1. 598.—*Brunn.* No. 145.—*Lath.* Ind. Orn. 2. 843. sp. 5.—*Flem.* Br. Anim. 1. 140. No. 225. *Steph.* Shaw's Zool. 13. 186.

Larus niger, *Briss.* 6. 158. 1.

Larus maximus ex albo et nigro varius, *Raii* Syn. 127. A. 1.—*Will.* 261.

Le Goëland noir Manteau, *Buff.* Ois. 8. 405. t. 31.—*Id.* Pl. Enl. 990.—*Temm.* Man. d'Ornith. 2. 760.

Mantel Meve, *Bechst.* Naturg. Deut. 4. 653.—*Meyer*, Tasschenb. Deut. 2. 465.

Great Black and White Gull, *Will.* (Angl.) 334. t. 67.—*Albin's* Birds, 3. t. 94.—*Low's* Faun. Orcad. 116.

Black-backed Gull, *Penn.* Br. Zool. 2. 528. No. 242.—*Arct.* Zool. 2. No. 451.—*Lath.* Syn. 6. 371. 2.—*Lewin's* Br. Birds, 6. pl. 208.—*Bewick's* Br. Birds, ed. 1826. p. t. 201.—*Flem.* Br. Anim. 1. 140. No. 225.

Great Black-backed Gull, *Mont.* Orn. Dict. and Sup.—*Shaw's* Zool. 13. 186.

Cobb, *Rennie's* Mont. Ornith. Dict. 92.

Larus naevius, *Gmel.* Syst. 1. 598.

Larus marinus junior, var. γ . *Lath.* Ind. Orn. 2. 314.

Le Goëland variée ou Grissard, *Buff.* Ois. 8. 413. t. 31.—*Id.* Pl. Enl. 266. } Young.

Breeding
places, and
eggs.

Food.

THE average size of this species exceeds that of the Glaucous Gull, although TEMMINCK has stated the latter to be the largest of the genus. It is met with, but by no means plentifully, upon most of our coasts; usually alone, or in pairs, and rarely in a flock of more than eight or ten together. Its breeding stations are on the Steep-holmes and Lundy islands in the Bristol Channel, Souliskerry in the Orkneys, the Bass Island in the Frith of Forth, and one or two other stations upon the Scottish coast. Its eggs, three or four in number, resemble those of the Herring and Lesser Black-backed Gulls in colour and markings, but are larger. This bird, like its congeners, is of a wary disposition, and must be taken by surprise, as it rarely admits of a sufficiently near approach. It is of very voracious appetite, and preys upon all kinds of animal substance that may happen to be cast on shore. It also keeps a close watch upon the Lesser Gulls, whom it drives from any food they may have discovered, appropriating the whole to itself; and MONTAGU mentions it as being a great enemy to the fishermen, as it will sever and devour the largest fish from their hooks, if left dry by the ebbing of the tide. Its flight is slow, but buoyant, without much exertion of the pinions, and, like other species, always opposed to the wind. Its voice is a strong and hoarse cackle, that may be heard at a great distance, when the bird is sailing in the air, and this is more frequently repeated during the spring and breeding season than at any other time. The young of this, and of the Herring and Lesser Black-backed species, have all been confounded together under the name of *Wagel* (or *Grey*) *Gull*; the plumage of all three being very much alike till they attain maturity. The present species is common in many parts of the north of Europe, but does not appear to extend, at least in any considerable numbers, to very high latitudes; as Captain SABINE, in his *Memoir of the Greenland Birds*, states that it was only once seen in Baffin's Bay, and Dr RICHARDSON never mentions it.

PLATE 97. represents this Bird of the natural size, from a specimen that was killed upon the Northumbrian coast, in April 1828, when it still exhibited a few dark streaks upon the crown, and hind part of the neck, indicative of the winter plumage.

Bill, from the division of the feathers on the forehead to the tip, two inches and a half long; of a pale gamboge or primrose-yellow; the angular projection of the lower mandible orange-red, with a dusky spot in the centre. Head, hind part of neck, whole of the under plumage and tail, pure white. Mantle and wing-coverts greyish-black. Greater quills black; the first one tipped with white for upwards of two inches, the next having a white spot about an inch from the end, and the extreme tip white; the rest white only at their very points. Tertiaries and secondaries deeply tipped with white. Legs pale flesh-red, with a livid hue.

In the young state, the colours of the plumage, and their disposition, are very nearly the same as in the young of the Herring Gull, and the changes annually undergone are also similar.

LESSER BLACK-BACKED GULL.

LARUS FUSCUS, Linn.

PLATE XCV.

Larus fuscus, Linn. Syst. 1. 225. 9.—Gmel. Syst. 1. 599.—Lath. Ind. Orn. 2. 815. sp. 8. but not the English synonym.—Steph. Shaw's Zool. 13. 194.—Flem. Br. Anim. 1. 140. No. 226.
Goëland à pieds jaunes, Temm. Man. d'Orn. 2. 767.
Herrings-meve, Bechst. Naturg. Deut. 4. 658.
Gelbfussige Meve, Meyer, Vog. Deut. 2. Heft. 18.
Lesser Black-backed Gull, Mont. Orn. Dict. and Sup., but not the synonyms which belong to the Herring Gull.—Bewick's Br. Birds, ed. 1826. p. t. 205.—Shaw's Zool. 13. 194.
Yellow-legged Gull, Flem. Br. Anim. 1. 140. No. 226.

PENNANT seems to have been the first of our authors who noticed this species as British ; for the bird he has described, as seen on the coast of Anglesea, and which he felt uncertain whether to rank as a distinct species, or only as a variety of *Larus marinus*, possesses the essential characteristic of the bright yellow legs, which distinguish it from its larger congener, as well as from the Herring Gull. Its characters were afterwards more fully detailed and established by MONTAGU (in his Ornithological Dictionary and the Supplement), under the English title it now bears, though the Latin synonyms attached to it, and to his Herring Gull, are misquoted, and ought in fact to be reversed. This error he was led into by PENNANT and LATHAM, both of whom have confounded the Herring Gull with the *Larus fuscus* of LINNÆUS ; though the specific characters of "*dorso fusco, pedibus flavis*," manifestly pointed out the bird to which the appellation belonged. The present is a common species on many parts of our coast, abounding where the Herring Gull is only met with occasionally, or in small numbers. Thus upon the Northumbrian shore, and in several districts of Scotland, it is the prevalent kind, and may be found at all seasons of the year. It breeds abundantly on the Fern Islands, colonizing two of the largest and flattest, and never (as far as my observation goes), tenanting the tops or ledges of the precipitous rocks.—The nests are composed of a quantity of dried grass, and the three or four eggs are of a deep oil-green, blotched irregularly with brownish-black. The young, upon exclusion, are covered with a parti-coloured down of grey and brown, but this is rapidly hidden by the growth of the regular feathers, and in a month or five weeks they are able to take wing. These breeding places, or *galleries*, are sometimes at a considerable distance from the sea, a large one being in a morass on the moors, near the boundary between Northumberland and Cumberland. They are met with also on some of the islands in the fresh-water lakes of

Nest, &c.

Scotland ; where Sir WILLIAM JARDINE and myself have obtained the eggs and young upon one of the islands of Loch Awe. In spring, towards the middle of April, when they begin to pair, the birds that breed upon the Fern Islands assemble every afternoon in large flocks upon the opposite mainland, and advance inland for four or five miles, alighting occasionally upon the pastures and newly sown corn-fields. At this time they are very clamorous, keeping up a continual concert, by uniting in their calls peculiar to the season, and which, when heard at a distance in a calm evening, have a wildness of sound that is far from being disagreeable. This Gull subsists on fish, and other marine animal food, and is often seen in pastures, or newly ploughed fields near the coast, in search of worms, larvæ, and insects. It readily submits to confinement, and may be reared from a tender age, as it thrives upon worms, or any kind of offal ; and I have frequently kept it for the sake of witnessing the changes in its progress to maturity, which, as in the other large species, occupy three years. Its digestion is rapid, and its voracity very great, as the following circumstance will shew : An individual, that I kept in a garden, made no difficulty of swallowing whole young Plovers of both kinds, when fully half grown. In size this species equals the Herring Gull, but its bill is shorter and thicker in proportion. The young of both (as has already been observed) are so similar as to make it very difficult to distinguish them, particularly during the first or nestling plumage.

Food.

PLATE 95. Adult Bird of the natural size, and in summer plumage.

Bill ochre-yellow ; angle of the lower mandible fine aurora-red. Irides gamboge-yellow ; orbits of the eyes vermillion-red. Legs and feet clear saffron-yellow. Head, neck, under plumage, lower part of the back, and tail, pure white. Mantle and wing-coverts deep blackish-grey. The six greater quills black ; the first with a

General description.

Adult. Summer plumage.

- Winter plumage. broad bar and the extreme tip white; the rest having only triangular white tips. Secondaries and tertials with white ends. In winter the head and neck are streaked with grey or pale broccoli-brown; the rest of the plumage remaining as in summer.
- Young. The young have been mentioned above; but may be known from those of *L. marinus* and *L. argentatus*, by the shorter bill, and the less livid hue of their feet and legs.

GENUS CATARACTES, *RAY*. SKUA.

GENERIC CHARACTERS.

BILL of mean length, strong, thick, compressed at the point; having the base of the upper mandible covered as far as the horny tip, with a cere; culmen rounded. Dertrum hard, convex, and hooked. Under mandible forming a salient angle from the symphysis, and fitting into the upper one. Tomia bending slightly inwards, sharp, and cutting. Nostrils lateral, placed immediately behind the dertrum, in the front of the cere, or soft corneous part of the bill, diagonal, narrow, anteriorly widest, and pervious.

Wings elongate, with the first quill-feather exceeding the others in length. **Tail** rounded, with the intermediate feathers more or less produced.

Legs having the lower part of the tibiae naked, covered in the back part with rough scales. **Feet** of four toes, three before and one behind. The front toes webbed; the hind toe very small, and articulated nearly on the same place with the front ones. **Nails** falcated, and sharp; the inner one being the strongest and most hooked.

By many of the earlier systematists, the Skuas were included in the Gulls, but as essential characteristics (not pos-

sessed by the former), are developed in their structure, particularly in the bill, feet, and tail, and as a marked difference also exists in their habits, it has been considered necessary to establish a distinct genus for their reception. This has been done by ILLIGER, in his *Prodromus*, under the generic name of *Lecstris*, in which he has been followed by TEMMINCK, and several other writers; but as our countrymen, WILLOUGHBY and RAY, had previously separated them from the genus *Larus*, under the appellation of *Cataractes*, I have followed the rule so generally adopted by naturalists, that of acceding to priority of imposition. In the cereous or soft horny covering of the basal part of the bill, the acuminate feathers of the neck, and their strong hooked talons, the Skuas exhibit a distant affinity to birds of the raptorial order, and their bold disposition and daring habits are also in apparent accordance with this connexion. They are the determined enemies of the Gulls, whom they unceasingly persecute on the wing, in order to make them disgorge their half digested or recently swallowed food, and which is then adroitly caught by the former before it can reach the water. They also feed upon the flesh of the whale and other marine animal substances. An approach to the Petrels is seen in their general contour, and in the structure of their feet, the hind toe in some species consisting of little more than a nail. Their wings are long and pointed, and their flight, which is strong, and at times astonishingly rapid, is performed by successive jerks (in each of which a considerable curve is described), bearing but little resemblance to that of the true Gulls. They are natives of the Arctic Regions, and are found, particularly during the season of reproduction, in very high latitudes. The plumage of both sexes is alike, but some species undergo great changes in their progress to maturity.

COMMON SKUA.

CATARACTES VULGARIS, Flem.

PLATE C.

- Cataractes vulgaris, Flem.* Br. Anim. 1. 137. No. 221.
Cataractes Skua, Stephens, Shaw's Zool. 13. 215.
Iarus Cataractes, Linn. Syst. 1. 226. 11.—*Gmel. Syst.* 1. 603.—*Lath. Ind.*
 Orn. 2. 818. sp. 12.
Catharacta Skua, Brunn. No. 125.
Lestris Cataractes, Temm. Man. d'Ornith. 2. 792.
Cataractes et Catharacta, Raii Syn. 128. A. 6.—*Will.* 265.
Le Goëland Brun, Buff. Ois. 8. 408.
Stercoraire Cataracte, Temm. Man. d'Ornith. 2. 792.
 Brown Gull, *Albin's Br. Birds,* 2. t. 85.
 Skua Gull, *Penn. Br. Zool.* 2. 529. No. 243.—*Arct. Zool.* 2. No. 531. A.
 —*Lath. Syn.* 6. 385. 14.—*Lewin's Br. Birds,* 6. pl. 211.—*Mont. Orn.*
 Dict. and Sup.—*Bewick's Br. Birds,* ed. 1826, p. t. 229.—*Rennie's Mont.*
 Orn. Dict. 463.
 Common Skua, *Flem.* Br. Anim. 1. 137. No. 221.—*Shaw's Zool.* 13. 215.
 Port Egmont Hen, *Cook's Voy.* 1. pp. 44, 272.

PROVINCIAL—Sea-Eagle, Bonxie, Skui.

THIS bird, which appears to be the largest of its genus, is of compact form, and bold disposition; which latter quality is more especially seen during the season of reproduction, a period when the instinctive passions of the feathered race are called into unwonted activity. It will at that time attack even man without hesitation, should he happen to approach the site of its nest; and so impetuous is its attack, that the natives of the Shetland Isles (its peculiar habitat in this kingdom) are compelled on such occasions to defend themselves by holding up a knife, or sharp stick; upon which the assailant has frequently been known to transfix and kill itself, whilst making its pounces upon the head of the intruder. Dogs, foxes, and other animals, are instantly attacked, and so severely dealt with by the wings and beak of the strong and pugnacious Skua, as to be soon driven to a hasty retreat, and no bird is permitted to approach with impunity; the Eagle itself being beaten off

with the utmost fury, should it happen to venture within the limits of the breeding territory. As above observed, it inhabits the Shetland Isles, breeding in communities upon Foulah, Unst, and Rona's Hill in Mainland. It selects the wild and unfrequented heaths for the site of its nest, which is formed of a few dried weeds and grasses; and its eggs, two in number, are of a dark oil-green colour, blotched with irregular brown spots, with smaller whitish ones intermixed. After performing the duties of incubation, it retires to the adjacent seas, where it leads a solitary life, rarely approaching the land till the advance of spring again urges it to seek its summer retreat. It is but seldom found in the southern parts of Scotland, and the instances of its capture upon the English coast are of still rarer occurrence, MONTAGU only mentioning one, of a bird that was shot at Sandwich, in Kent.—The food of the Skua consists of fish, the carcasses of cetaceæ, and other marine animal matter; a great part of which is obtained from the larger Gulls, whom it attentively watches, and pursues with unceasing hostility, till they are compelled to disgorge the fish or other substance that they had previously swallowed, and which, from its rapid evolutions on the wing, it generally catches before reaching the surface of the water. In this, as well as in the other species, the claws are strong and much hooked, particularly that of the inner toe; and it is said to make use of them in holding fast its prey, which is torn in pieces after the manner of raptorial birds. The Skua inhabits also various parts of the Arctic Regions, and is well known in the Feroe Islands, in Norway, and Iceland. It is, moreover, a native of the high latitudes of the southern hemisphere, and is mentioned by COOK, and other circumnavigators, under the name of the Port Egmont Hen. DR FLEMING * observes, that the fea-

Nest, &c

Food.

* For some interesting observations upon the Skuas, I refer my readers to a paper by DR FLEMING, published in the first volume of the Edinburgh Philosophical Journal.

thers of these birds have a very strong smell, not unlike that peculiar to the Petrels, to which genus, as I have before remarked, they shew much affinity *.

PLATE 100. represents the Common Skua in about four-fifths of the natural size.

General
description.

Male bird.

Head, cheeks, and region of the eyes, deep yellowish-brown. Neck having the feathers wiry and pointed; and, together with the under plumage, of a deep brownish-grey, or clove-brown, marbled and tinged with reddish-brown. The first quill having its outer web and tip blackish-brown; the rest the same on the tips only, the basal part being white; shafts of all of them white, and strong. Upper plumage dark reddish-brown, with lighter-coloured oblong spots. Tail of twelve feathers; its basal half white, the remainder deep brown; rounded, with the two middle feathers a little exceeding the rest in length. Bill brownish-black, with the soft corneous part slightly elevated above the hooked tip. Lower mandible grooved, and forming an angle at the symphysis. Orbits black; irides deep hazel-brown. Legs rather strong, and covered with large prominent black scales. Claws black, strong, hooked, and grooved beneath.

Female.

The Female resembles the Male bird both in colour and size; and there appears to be but little variation in the changes of plumage from the Young to the Adult state.

* MR NEIL, has now (1832) in his possession a Skua, that was brought to him as a nestling from Rona's Hill in summer 1820, when the gentlemen engaged in the Government Trigonometrical Survey were encamped on that mountain. It likes herring, which it swallows whole, but prefers a piece of very fat boiled mutton; it is also fond of soft cheese. When it cries, it opens its mouth to the full gape, and the scream it utters sounds somewhat like *skui*. It moults but once a-year. When irritated, or preparing to attack, it raises the neck-feathers in the manner of a game-cock.

POMARINE SKUA.

CATARACTES POMARINUS, Steph.

PLATE CI.* *

- Cataractes Pomarinus, Steph.* Shaw's Zool. 13. 216. pl. 24.
Lestris Pomarinus, Temm. Man. d'Orn. 2. 793.—Faun. Amer. Boreal.
 2. 429. No. 194.—*Sabine*, Sup. Parry's 1st Voy. 206. 22.
Stercoraire Pomarin, Temm. Man. d'Orn. 2. 793.
Stercoraire rayé, Orn. 6. 152. No. 2. t. 13. f. 2.
Felsen Meve, Meyer, Vog. Deut. 2. Heft 20.
Pomarine Skua, Shaw's Zool. 13. 216. pl. 24.
Pomarine Jager, Faun. Amer. Boreal. 2. 429. No. 194.

THIS species, intermediate in size between the Common and Arctic Skuas, was first specifically described by TEMMINCK in his "Manuel d'Ornithologie," appearing, when previously met with, to have been confounded with the latter of these birds. Since its distinctive characters have been made known, and a greater degree of attention has been bestowed on ornithological pursuits, we find it more frequently recognised; and within the last two or three years several specimens have been obtained on the English coast, particularly in Yorkshire and Durham, during the autumnal months. In November 1831, a letter from RUDSTON READ, Esq. of Frickly Hall, near Doncaster, informed me of his having killed three of these birds off Scarborough, in the month preceding; and a subsequent communication from Mr WILLIAMSON of the latter place, contained an account of others which had come under his examination, all of them killed upon the same part of the coast. He also gives an interesting account of their manners, to observe which Mr READ and himself had proceeded to sea in an open boat; and he goes on to say, "we were not disappointed, for, after rowing out to sea about four or five miles, we had the pleasure of seeing two in full chase after the other Gulls, in the manner of the *Lestris (Cataractes) Parasiticus*, only appearing more

Occasional
 visitant.

bold, striking them with great force and power, and pursuing them to a great distance; the Gulls making a loud and screaming noise every time they were struck at. I got an Arctic Gull (*Skua*) in company with them, but saw no more; nor have any of the Skua Gulls been seen or heard this year." All these specimens appear to have been birds of the first year, the description of their plumage answering to that age as given in TEMMINCK's "Manuel d'Ornithologie;" nor have I yet learned that an adult bird has been killed in Britain. In Europe, the present species is found upon the coasts of Sweden and Norway, where it breeds, but has not hitherto been met with in Shetland (the resort of the other species), or any of the northern Scottish Islands. According to Dr RICHARDSON, it is common in North America, inhabiting the northern outlets of Hudson's Bay and

Food.

other Arctic seas, where it subsists upon fish, and other animal substances cast on shore, as well as on the disgorgements of the Gulls, when pursued and attacked by it. He adds, "that it retires from the north in the winter, and makes its first appearance at Hudson's Bay in May, coming in from seaward." It breeds in situations similar to those selected by the Common and Arctic Skuas, constructing its

Nest, &c.

nest of moss, dried grass, &c. TEMMINCK mentions the eggs as two or three in number, of a yellowish-grey colour, thinly spotted with blackish-brown. This species is readily distinguished at all ages from the Arctic Skua by its superior size, by the greater length of its wings, and the rounded ends of the two projecting tail-feathers; as well as by other distinctive tokens in colour and disposition of plumage.

PLATE 101. represents the matured bird, from a specimen in the collection of Sir WILLIAM JARDINE, Baronet.

General
descrip-
tion.

Adult bird.

Bill, from the forehead to the tip, one inch and three-eighths long; the soft corneous part greenish-grey, the tip black. Irides dark-brown. Face, crown of the head, occiput, back, scapulars, wings, and tail, deep blackish-

brown, with a slight tinge of grey. Sides and nape of the neck clothed with long subulated feathers of a glistening sienna-yellow. Throat, forepart of the neck, belly and abdomen, white. Breast having a collar or gorget of greyish or broccoli brown spots. Flanks and lower tail-coverts dashed with greyish-brown. The two middle tail-feathers elongated, but preserving their breadth throughout. Shafts of the quills and tail-feathers white. Legs and toes black; the hind toe very short, and armed with a stout nail.

The following description answers to one of the individuals examined by Mr WILLIAMSON, and agrees with one in my possession; being the plumage of the first year.

Length twenty inches; breadth of the extended wings Young. forty-six inches. Bill one inch and a half long, of a bluish colour; the upper mandible having the culmen rounded, as far as the dertrum, which is bent down like that of the Common Skua, and is black. A groove from the top and bottom of the nostrils extends to the base of the bill, making the cereous part of the upper mandible appear as if in three longitudinal divisions. The lower mandible has its tomia bending inwards, and a longitudinal groove extends from the base for upwards of half its length. Irides hazel. Legs and feet bluish-black, with the claws black and much hooked. Head and neck clove-brown, tinged with grey, and the feathers very finely margined with pale brown. Upper plumage deep clove-brown, with the tips of the feathers yellowish-brown; broadest on each side of the shaft, and looking like two spots. Under plumage having the basal part of the feathers white, the rest marbled with yellowish-brown and clove-brown. Upper and under tail-coverts transversely barred with pale clove-brown and reddish-white. Shafts and basal part of the inner

webs of the quill-feathers white; the tips and outer webs black. Wings, when closed, reaching upwards of an inch beyond the tail. Tail-feathers having part of their shafts and the basal half of their inner webs white; the rest black; and the two middle ones exceeding the rest about three-quarters of an inch in length, but preserving their full breadth, and rounded at the ends. As the bird advances in age the under parts become whiter, and the subulated feathers upon the head and neck make their appearance.

ARCTIC SKUA.

CATARACTES PARASITICUS, Flem.

PLATE CL AND CL^a.

- Cataractes parasiticus, Flem.* Br. Anim. 1. 138. No. 222.
Lestris parasiticus, Temm. Man. d'Ornith. 2. 796.—Faun. Amer. Boreal. 2. 430. No. 195.—*Sabine*, Mem. Birds of Greenland, 551. No. 24.
Stercorarius Cepphus, Steph. Shaw's Zool. 13. 211. pl. 23.
Stercorarius longicaudus, Briss. Orn. 6. 155.
Larus parasiticus, Linn. Syst. 1. 226. 10.—*Gmel.* Syst. 1. 601.—*Lath.* Ind. Orn. 2. 819. sp. 15.
 Le Labbe à longue queue, *Buff.* Ois. 8. 445.—Id. Pl. Enl. 962.
 Stercoraire parasite, ou Labbe, *Temm.* Man. d'Orn. 2. 796.
 Arctic Bird, *Edward's* Glean. 148 and 149.
 Arctic Gull, *Penn.* Br. Zool. 2. 533. No. 245. pl. 87.—*Arct. Zool.* No. 459.
 —*Lath.* Syn. 6. 389. 10. t. 99.—*Mont.* Orn. Dict. and Sup.—*Lewin's* Br. Birds, 6. pl. 207.—*Bewick's* Br. Birds, ed. 1826, p. t. 232.—*Flem.* Br. Anim. 1. 138. No. 222.
 Arctic Jager, *Shaw's* Zool. 13. 211. pl. 23.—Faun. Amer. Boreal. 2. 430. No. 195.
 { *Larus crepidatus, Gmel.* Syst. 1. 612.—*Lath.* Ind. Orn. 2. 819. sp. 14.
 { *Lestris crepidatus, Temm.* Man. d'Orn. 1. ed. 515.
 { *Cataracta Cepphus, Brunn.* 36. No. 126.—*Raii* Syn. 129. 11.
 { *Cepphus, Dr Lyons* in Trans. Phil. Soc. 42. 137.
 { Le Labbe, ou Stercoraire, *Buff.* Ois. 8. 441. t. 34.—Id. Pl. Enl. 991.
 { Labbe à courte queue, *Cuv.* Reg. Anim. 1. 520.
 { Black-toed Gull, *Penn.* Br. Zool. 2. 532. No. 224. pl. 86.—*Arct. Zool.* 2. No. 460.—*Lath.* Syn. 6. 387. 15.—Id. Sup. 268.—*Bewick's* Br. Birds. ed. 1826, p. t. 235.—*Mont.* Orn. Dict. and Sup.

Young.

PROVINCIAL.—Teazer, Dung Hunter, Scull, Bontswain, Dung Bird, Faskiddar, Dirlten-Allen, Scoute-Allen, Badock, Allan, Skui.

IN its young state, as the Black-toed Gull (*Larus crepidatus*) of authors, this species is not of unfrequent occurrence, during the autumnal months, upon the northern coast of England; to which it is attracted by the Gulls that follow the shoals of herring on their approach to the shallows, for the purpose of depositing their spawn. Like the other Skuas, it obtains the greater part of its subsistence by continual warfare on the above-mentioned birds; vigorously pursuing and harassing them till they are compelled to disgorge the food previously swallowed. In this occupation its dark plumage and rapid flight are certain to attract the attention of the spectator; and there are few probably who have visited the coasts of Scotland, and the northern districts of England, who have not witnessed and admired the aerial evolutions of the *Teazer*, and the distress of its unfortunate object of attack. It is but very rarely met with beyond the precincts of the Shetland and Orkney Isles in its adult state, and only one instance has occurred within my own observation, viz. on an excursion to the Fern Islands in the month of May, when two of these birds flew ahead of the boat in a northerly direction; and which were perfectly distinguishable by their lengthened and slender middle tail-feathers, and the black and white of their plumage. This Skua does not appear to be a permanent resident in any part of the British dominions, for Low, in his "Fauna Orcadensis," describes it as a migratory bird, arriving there and in Shetland in May, and departing in autumn, or as soon as the duties of reproduction have been effected. From its absence, in the adult state, from our southern coast, it would seem that the line of its winter migration is more to the eastward; and this agrees with the statement of TEMMINCK, who gives as its habitats the shores of the Baltic, of Norway and Sweden.—It breeds upon several of the Orkney and Shetland Isles, and is gregarious during that period; and the situations selected for nidification are the unfrequented heaths at some distance from the shore. The nest is composed of dry grass

Periodical
visitant.

Food.

Nest, &c.

and mosses, and its two eggs are of a dark oil-green, with irregular blotches of liver-brown. At this season the bird is very courageous, and, like the Common Skua, attacks every intruder upon the limits of its territory, by pouncing and striking at the head with its bill and wings. It also occasionally endeavours to divert attention by feigning accidental lameness, in the same manner as the Partridge and Lapwing. Its flight is rapid and peculiar, being performed by successive jerks, which render it easily distinguishable from the Gulls, amongst whom it is so often seen mingled, in watchfulness of their movements. This species is widely distributed throughout the higher Arctic Regions, and was met with in all the late Expeditions to the polar seas, both in Europe and North America.

PLATE 101.* represents the Arctic Skua of the natural size, and in the matured plumage.

General
descrip-
tion.

Adult bird.

Bill having the cereous part greyish-black, with the tip darker; depressed, and broad at the base; grooved as in the *Cat. Pomarinus*, and forming three plates; lower mandible laterally grooved for two-thirds of its length; the symphysis forming a slight angle; commissure straight to a little beyond the line of the nostrils, when it becomes curved in both mandibles. Irides chesnut-brown. Forehead, chin, cheeks, sides of the neck, and breast, pale straw-yellow. Belly yellowish-white, passing towards the abdomen and upon the flanks into greyish-brown. Feathers of the upper part of the neck wiry and acuminate, forming a kind of collar. Crown of the head, nape of the neck, back, quills, tail, and under tail-coverts, brownish-black, tinged with grey, deepest upon the head and the extremities of the wings and tail. Shafts of the quills and tail-feathers whitish to near their points. The two middle tail-feathers much produced, and tapering to a fine point. Wings, when closed, very little longer than the lateral feathers of the

tail. Legs blotched with yellow; front of the tarsus scutellated, the back part reticulated with small pointed conical scales, giving it a roughness to the feel.—Both sexes are alike.

PLATE 101. The bird of the year, in the natural size; from a specimen obtained on the coast of Northumberland.

Head and neck clove-brown, with striæ of pale yellowish-brown; most conspicuous upon the ear-coverts and hind part of the neck. Back, wing-coverts, and scapulars, deep clove-brown; the feathers being tipped with yellowish-white, inclining upon the ridges of the wings to yellowish-brown. Quills brownish-black, with the lower part of the inner webs and shafts white. Tail the same; the two middle feathers about half an inch longer than the rest, and sharp pointed. Under plumage pale clove-brown, undulated with yellowish-white and pale wood-brown. Legs having the posterior part of the webs and toes yellowish-white, the front part and claws black. Young.

In this, and a still farther advanced state, it answers to the *Black-toed Gull* of our authors.

GENUS PROCELLARIA, LINN. PETREL.

GENERIC CHARACTERS.

BILL strong, straight, thick, subcylindrical; the upper mandible broader than deep at the base; tip distinct, compressed, arched, and hooked; lower mandible laterally furrowed, with a distinct, semi-truncate, and angulated tip, much compressed, and fitting into the hooked dertrum of the upper mandible. Tomia of both mandibles sharp; those of the upper slightly overlapping the under ones. Nostrils

tubular, contained in an elevated convex sheath reaching as far as the arch of the dertrum, opening outwardly by a single orifice. Wings long and acuminate; the first quill-feather exceeding the rest in length. Tail slightly rounded. Legs of mean length and strength; tarsi reticulated; feet of three toes, webbed; toes long and slender; the outer and middle ones being of nearly equal length, and longer than the inner one; hind toe represented by a strong and slightly recurved nail. Claws long, and rather falcate.

The present genus, of which the Fulmar may be considered the type, has been separated from the rest of the Petrels (genus *Procellaria* of authors) by some of the most eminent systematists of our age, on account of the different character displayed in the form of the bill. In the members of this genus it is of great power, being much dilated at the base, and armed with a very strong and hooked dertrum. The nostrils, though divided by a septum within the nasal sheath, exhibit externally only one large rounded aperture. Their habits are more diurnal than those of the Shearwaters and Storm Petrels. Their flight is easy and buoyant, and they are almost constantly on wing, only alighting on the ocean to take a short repose, and rarely coming to land, except during the period of incubation. They feed upon the blubber of whales and other cetaceous animals, as well as fish, and possess (like most of the nearly allied groups) the property of squirting a clear liquid oil from their tubular nostrils with much force, and as a method of defence. The sexes are of similar plumage, and the changes from the young to the adult state, although not violent, are supposed to occupy two years. They are inhabitants of the higher latitudes of both Hemispheres, and breed in the holes and on the ledges of precipitous rocks; laying but one egg, which is of a large size, and white.

FULMAR PETREL.

PROCELLARIA GLACIALIS, Linn.

PLATE CII. *

- Procellaria glacialis*, Linn. Syst. 1. 213. 3.—Gmel. Syst. 1. 562.—Lath. Ind. Orn. 2. 823. sp. 9.—Sabine, in Linn. Trans. 12. 553.—Flem. Br. Anim. 1. 135. No. 217.
Procellaria cinerea, Briss. 6. 143. 2. t. 12. f. 2.
Fulmarus glacialis, Steph. Zool. 13. 234. pl. 27.
 Fulmar, ou Petrel puffin-gris blanc, Buff. Ois. 9. 325. t. 22.
 Petrel de l'Isle de St Kilda, Buff. Pl. Enl. 59.
 Petrel Fulmar, Temm. Man. d'Orn. 2. 802.
 Fulmar Petrel, Penn. Br. Zool. 2. 549. No. 257. pl. 91.—Arct. Zool. 2. No. 461.—Lath. Syn. 6. 403. 9.—Lewin's Br. Birds, 6. pl. 217.—Mont. Orn. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 259.
 Northern Fulmar, Shaw's Zool. 13. 234. pl. 27.

PROVINCIAL—Mallemuck, Malmoke, Mallduck.

THE steep and rocky St Kilda, one of the western islands of Scotland, is the only locality within the British dominions annually resorted to by the Fulmar, the rest of the Scottish, and our more southern coasts, being rarely visited even by stragglers. Upon St Kilda these birds are found in vast numbers during the spring and summer months, breeding in the caverns and holes of the rocks; and, from the various uses to which the down, feathers, and oil of the young are applied, contribute essentially to the comfort of the inhabitants.—They lay but one egg each, white, and of a large size, with a shell of very brittle texture. The young are hatched about the middle of June, and are fed with oil thrown up by the parents (the produce of the food upon which they subsist), and, as soon as fledged, are eagerly sought for by the natives, although often at the risk of life, in scaling the tremendous and overhanging cliffs in which they nestle. Like most of the group, these birds have the power of ejecting oil with much force through their tubular nostrils, which is used as the principal mode of defence; it becomes an es-

Incubation, &c.

sential point, therefore, that they should be taken and killed by surprise, in order to prevent the loss of a liquid so requisite for the comfort of the inhabitants, by supplying them with the necessary fuel for their lamps. The Fulmar is of voracious appetite, feeding upon all sorts of animal substance, particularly of an oily nature, such as the blubber of whales, seals, &c.; and for this purpose, it follows in great numbers the track of the whale vessels, and is so greedy of its favourite food, as to be often seen alighting upon the wounded animal, when not quite dead, and immediately proceeding to break the skin with its strong hooked bill, and gorging itself with the blubber to repletion. Upon the banks of Newfoundland it is also a constant attendant upon the fishing-vessels. Here it is known by the appellation of *John Down*, living luxuriously upon the liver and offal of the cod-fish; and is often taken alive by a hook baited with a piece of the liver or flesh. During the summer its polar migration extends to very high latitudes. Captain SABINE states it to be abundant at all times in Davis' Straits and Baffin's Bay; and the same author, in his *Memoirs of the Birds of Greenland*, observes, that whilst the ships were detained by ice in Jacob's Bay, latitude 71° , from the 24th of June to the 3d of July, Fulmars were passing in a continual stream to the *northward*, in numbers inferior only to the flight of the passenger pigeon in North America. From the extent of its wings the Fulmar flies with great buoyancy, and is seldom seen near the shore, except during the period of reproduction; at other times remaining out at sea, and seeking its repose by floating upon the surface of the water.

PLATE 102. Fig. 1. Represents the Adult bird of the natural size.

General
description.

Adult bird.

Bill bright gamboge-yellow, with the nasal tube inclining to saffron-yellow, very strong and powerful. Irides pale king's-yellow. Head, neck, rump, tail, and under parts of the body pure white. Mantle, scapulars, wing-

coverts, and secondary quills fine bluish-grey. Quill feathers blackish-grey. Legs yellow, tinged with grey. Tail rounded.

Fig. 2. The bird before having acquired maturity.

Head, neck, rump, tail, and under plumage ash-grey. A Young. spot of blackish-grey at the anterior angle of the eye. Upper plumage deep ash-grey, with a slight tinge of brown. Bill and legs yellow, tinged with grey.

GENUS PUFFINUS, *RAY*. SHEARWATER.

GENERIC CHARACTERS.

BILL as long as, or longer than, the head, straight, slender, subcylindrical, with the tip of the upper mandible arched and hooked, that of the lower one bent downwards, and fitting into the upper without any angle at the symphysis. Nostrils basal, tubular, with two distinct truncated openings in front.

Wings long, acuminate, with the first quill-feather the longest. Tail rounded. Legs having the tarsi of mean length, laterally compressed. Feet of three toes, entirely webbed; hind toe represented by a straight nail or claw. General contour rather long.

The Shearwaters are distinguished from the birds of the preceding genus by the comparative slenderness and weakness of the bill, and the peculiar modification of its tip, both mandibles being *bent downwards*. As also in the nostrils, which are formed (as it were) of two tubes cemented sideways together, and opening outwardly by two separate truncated apertures instead of one, as in the Fulmar. Their legs are placed farther backwards, and the tarsi are longer in proportion and very much compressed, a formation which, without

doubt, greatly facilitates that singular practice of running along the surface of the waves, which they are so frequently seen to exhibit when in search of their food. In habits they approach the succeeding genus *Thalassidroma* (Storm Petrels), feeding by night rather than by day. They breed in the holes of rocks, rabbit-burrows, &c. and lay a single white egg of a large size. Their food consists of putrescent fish, cetaceæ, marine worms, and other floating animal matter. Their flight is rapid, and they are observed to be particularly alert during dark and tempestuous weather.

CINEREOUS SHEARWATER.

PUFFINUS CINEREUS, Steph.

PLATE CII *.

Puffinus cinereus, *Steph.* Shaw's Zool. 13. 227.

Procellaria cinerea, *Gmel.* Syst. 1. 563.—*Lath.* Ind. Orn. 2. 824. sp. 10.

Procellaria Puffinus, *Linn.* Syst. 1. 513. 6.—*Gmel.* Syst. 1. 566.

Le Puffin, *Buff.* Ois. 9. 321.—*Id.* Pl. Enl. 962.

Pétrel Puffin, *Temm.* Man. d'Ornith. 2. 805.

Cinereous Petrel, *Lath.* Syn. 8. 405. 10.

Cinereous Shearwater, *Shaw's* Zool. 13. 227.

Very rare
visitant.

I AM induced to add this species of Shearwater to the list of our Fauna, in consequence of a specimen that lately came into my possession, obtained upon the coast of Northumberland. Its size is about a third larger than that of the succeeding species, which it resembles in general form; and its bill, as in TEMMINCK's description, is turned slightly upwards in front of the nostrils, which latter are formed of two tubes, rather depressed anteriorly, and opening by separate truncated apertures. This appears to be a common bird in the Mediterranean, and on the coast of Spain, but does not seem to have been hitherto recognised as a British visitant, though in all probability it may occasionally have been killed here, but always confounded with the other one

so common upon the southern and western coasts of England. Its habits are presumed to be similar, but as they have not been noticed by TEMMINCK, or any other writer, I must confine myself to a mere description of the plumage of the individual above mentioned, which appears to be a bird of the year.

PLATE 102 *. Natural size.

Bill, from the forehead to the tip, one inch and three quarters long, slightly recurved, with the dertrum arched, and strongly hooked; nasal tubes obliquely truncated and open in front. Tip of the lower mandible bent down, and following the curve of the upper one. Head, back part of the neck, and the upper plumage, blackish-brown, with the margins and tips of the feathers of the scapulars lighter. Throat, lower part of the neck, and the whole of the under plumage deep ash-grey, with a tinge of broccoli-brown. Quills and tail brownish-black. Legs having the outer part of the tarsus deep grey; the inner part and webbs yellowish. Tarsus two inches and one-eighth long. Middle and outer toes two inches and a half in length.

General
description.

MANKS SHEARWATER.

PUFFINUS ANGLORUM, Ray.

PLATE CII.

- Puffinus Anglorum*, *Raii Syn.* 134. A. 4.—*Will.* 252.—*Steph. Shaw's Zool.* 13. 226. pl. 26.—*Flem. Br. Anim.* 1. 137.
Procellaria Puffinus, *Lath. Ind. Orn.* 2. 824. sp. 11.—*Briiss. Orn.* 6. 131.
Le Puffin cendré, *Cuv. Reg. Anim.* 1. 516.
Pétrel Manks, *Temm. Man. d'Orn.* 2. 806.
Manks Puffin, *Edwards' Glean.* pl. 379.—*Will. Angl.* 333.
Shearwater Petrel, *Penn. Br. Zool.* 2. 551. No. 258.—*Arct. Zool.* 2. 462.
—*Lath. Syn.* 6. 406. 11.—*Id. Sup.* 269.—*Mont. Ornith. Dict. and Sup.*
—*Bewick's Br. Birds*, ed. 1826, p. t. 241.
Manks Shearwater, *Shaw's Zool.* 13. 226. pl. 26.

PROVINCIAL—Lvre, Shearwater, Scrahe.

FROM the accounts transmitted to us by WILLOUGHBY and PENNANT, this species appears, at the time they wrote, to have resorted in great numbers to the Calf of Man, a small islet at the south end of the main island, and only divided from it by a narrow channel. But, from the information I have been able to obtain, confirmed by the testimony of Sir WILLIAM JARDINE, (who visited the Isle of Man a few years ago with the express view of ascertaining this and some other points connected with Ornithology), it seems now to be entirely deserted by these birds, a circumstance in all probability occasioned by the wanton and greedy destruction of their eggs and young, for PENNANT tells us, that in his day great numbers were annually killed by the person who then farmed this islet, as the birds were in high estimation, both in a fresh and salted state. This Shearwater was also said to breed upon Scilly Islands, but not having extended my inquiries to that group, I am unable to say whether it is now to be found there. It is still, however, abundant in the Orkneys, where it breed in holes scratched in the earth that fill up the interstices of the rocks and bold headlands, and is stated by Low to be the main object of pursuit to the *rock-men*, who endanger their lives in climbing the most awful precipices for the eggs and young of the various waterfowl that make their nests in such situations. Like the rest of the genus, this bird lays but one white egg, of a rounded form, being equally obtuse at each end, and not inferior in size to that of a domestic fowl. It arrives at its breeding station in February or March; and soon after August, when its young is able to fly, deserts it for the open sea, migrating, as the winter approaches, in a southerly direction towards the coast of Spain, the Mediterranean, &c. In Britain it is almost entirely confined to the western coast, being of very rare occurrence on the eastern, where I have only met with one individual, which was shot upon an excursion to the Fern Islands. WILLOUGHBY (in his Ornithology, so admirably correct for the time at which he wrote), has described this

Incubation, &c.

species as feeding by day and not by night, for he says, "the old ones, early in the morning at break of day, leave the nests and young, and the island itself, and spend the whole day in fishing in the sea, never returning or setting foot on the island before evening twilight, so that *all the day* the island is so quiet and still from all noise, as if there were not a bird about it." This is repeated by PENNANT, and by subsequent compilers; but I am inclined to think, that from ignorance of the real habits of the bird, he has taken up a wrong impression, and that the stillness observed upon the island during the day did not arise from the absence of the birds at sea, but from their remaining in their burrows, taking their natural repose, and which is, I think, borne out by the fact of their acknowledged activity at evening twilight and morning dawn.—This Shearwater feeds upon all kinds of marine animal substance, particularly such as is in a state of decomposition, and easily reducible to oil, into which it is soon converted by the action of the stomach. With this liquid it feeds its young, and also defends itself from its enemies by squirting it in their faces from its tubular nostrils. It flies very rapidly, skimming along the surface of the waves, and using its palmated feet to support itself whilst picking up its floating food, or to aid its impetuosity when cutting through the curling crests of the waves. For this purpose its feet are placed far backwards, so that on land it is compelled to sit nearly in an erect position.

Food.

PLATE 102. Represents the bird of the natural size, from the specimen above mentioned.

Head, nape, back part of the neck, and upper plumage, deep greyish-black, with a glossy lustre. Sides of the neck and breast transversely rayed with grey and white. Chin, throat, fore part of the neck, and under plumage pure white. Behind the thighs is a patch of black. Quills and tail black, the wings, when closed, reaching nearly to the end of the tail. Bill yellowish-brown at

General description.

the base, darker towards the tip, slender, one inch and three-eighths in length from the forehead to the tip. Legs having the tarsi much compressed; front of the tarsi, and part of the webs and toes yellowish, tinged with flesh-red.

GENUS THALASSIDROMA, *VIGORS*. STORM-
PETREL.

GENERIC CHARACTERS.

BILL shorter than the head, much compressed in front of the nasal sheath, with the tip of the upper mandible suddenly curving and hooking downwards, and that of the lower one slightly angulated and following the curve of the upper. Nostrils contained in one tube or sheath, but shewing two distinct orifices in front.

Wings long, acuminate, with the first quill-feather shorter than the third, and the second the longest in the wing. Tail square, or slightly forked.

Legs having the tarsi rather long and slender, reticulated. Feet of three toes, united by a membrane. The outer and middle toes nearly equal in length, and longer than the inner; hind toe represented by a small strait dependant nail.

The members of this genus, which are all of small size, have been very properly separated by Mr *VIGORS* from the rest of the Petrel group, as they exhibit a decided difference in the form of the bill from that of the Shearwaters and the other nearly allied species, the lateral compression towards the tip being much greater; and the nostrils, instead of being separate tubes, contained in a common sheath, and merely divided by an internal septum. The proportions of the wing are also different, and their legs are longer and placed more in the centre of the body. In *TEMMINCK*'s "*Manuel*," they

form the third section of his genus *Procellaria*, under the title of "*Petrel Hirondelle*," which sections, as I have before observed, are correspondent to generic divisions. They are birds of nocturnal or crepuscular habits, and are seldom seen except in lowering weather, or during storms, when they frequently fly in the track of ships. At other times, and in clear weather, they remain concealed during the day in the holes of rocks, rat burrows, &c. and only come forth at nightfall in search of food, consisting of marine insects, small molluscæ, and other oily animal matter, which they find floating on the surface of the ocean. Their flight is peculiarly swift, equalling that of any of the Swallow tribe, which birds, indeed, they resemble both in size, colour, and general appearance. The known species are all of a dark hue, more or less relieved with white, are widely distributed, some being found in both hemispheres, and in a variety of climate. They breed in the crevices of rocks, caverns, &c. and, like the members of the two preceding genera, lay but one egg, which is white, and comparatively of a large size.

COMMON STORM - PETREL.

THALASSIDROMA PELAGICA, *Mihi*.

PLATE CIII. FIG. 2.

- Procellaria pelagica*, *Linn. Syst.* 1. 212. 1.—*Gmel. Syst.* 1. 561.—*Briss. Orn.* 6. 140. pl. 13. f. 1.—*Lath. Ind. Orn.* 2. 826. sp. 19.—*Shaw's Zool.* 13. 220.—*Flem. Br. Anim.* 1. 135. No. 218.
Oiseau de Tempête, *Buff. Ois.* 9. 327.
Pétrel Tempête, *Temm. Man. d'Orn.* 2. 810.
Kleinsten Sturmvogel, *Meyer, Tasschenb. Deut.* 2. 495.
Storm-finch, *Will. (Angl.)* 395.
Stormy Petrel, *Penn. Br. Zool.* 2. 553. No. 259. pl. 91.—*Arct. Zool.* 2. 464.—*Edward's Glean.* pl. 90.—*Albin's Birds*, 3. pl. 92.—*Lath. Syn. Sup.* 269.—*Lewin's Br. Birds*, 6. pl. 219.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, p. t. 246.

PROVINCIAL—Little Petrel, Witch, Mother Carey's Chicken, Mitty, Assilag, Spency, Sea-swallow, Allamouty.

THESE birds, well known to mariners by the name of "Mother Carey's Chickens *," and dreaded by them as the forerunners of tempestuous weather, are indigenous in Britain, being found upon the surrounding seas at all seasons of the year, and have been ascertained to breed, not only upon the Shetland and other northern islands of Scotland, but upon the rocky coast of the north-west of Cornwall, at the opposite extremity of the kingdom. The geographical distribution of this species has been supposed to be very extensive; but the discovery of other species very closely allied to it both in size and colour (and only to be distinguished by narrow inspection and comparison), in various parts of the Atlantic and Pacific Oceans, makes it more than probable that these latter have been mistaken for it, and that its distribution is in fact much more limited, being in all likelihood confined to the European seas. That it should be oftener seen by sailors during tempests or in the lowering weather immediately preceding a storm, is only what might be expected from the habits of the members of this genus, which, as I have previously remarked, display more activity during the night than the day. Its presence, then, is to be attributed to the gloomy state of the atmosphere that attends such convulsions, and it thus becomes generally what mariners consider it, the natural harbinger of the storm. At such times, also, it approaches nearer to vessels, frequently flying round them like a Swallow, or following in their wake, to all appearance more for the purpose of picking up any food that may occasionally be thrown overboard, or from its natural food, the smaller marine insects, molluscæ, &c. being brought within its reach by the action of the vessel, than for shelter and protection, as it is observed to brave the roughest seas, and even to amuse itself by skimming along the hollows of the waves, or dashing over their summits with amazing velocity. It breeds

Food.

* This title is not, however, restricted to the present species, but is equally applied to *Thalass. Bullockii*, *T. Wilsonii*, *T. oceanica*, &c. which closely resemble each other in appearance, and whose habits are similar.

in the holes of rocks, or, in default of these, in the burrows of rabbits and rats, and under large stones. Most authors have stated it to lay but one egg, and such I believe to be the general law; but Mr SCARTH *, who found a nest in passing over a track of peat moss near the shore upon an uninhabited islet in Orkney (and to which he was directed by the low purring noise of the female), reports that it contained *two* pure white eggs, of a very large size as compared with the bird †. Upon seizing the old one, he adds, she squirted out of her mouth (*nostrils*, I presume), an oily substance of a very rancid smell. He took her home, and having put her into a cage, he offered her worms of various kinds to eat, all of which she refused. After the expiration of four days, he happened to observe that she occasionally drew the feathers of her breast singly across, or rather *through*, her bill, and appeared to suck an oily substance from them, which induced him to smear her breast with train oil; and, observing that she greedily sucked the feathers, he repeated the smearing two or three times each day for about a week. He then placed a saucer containing oil in the cage, in which she regularly dipped her breast and then sucked her feathers as before; and in this way he kept her alive for three months. Some authors have stated that the young, as soon as hatched, are conducted to the water; but this is a mistake, as they remain in the holes till fully fledged and able to fly, which does not take place for some weeks, and during which time they are fed by the parent birds with oily matter ejected from their stomachs. In the evening, when about to sally forth to procure food, the old ones are very clamorous, making a shrill whistling noise as well as the purring before mentioned; but during the day they remain silent and quiet in their retreats. From the nature of its food and peculiar economy, this bird is gene-

Incubation, &c.

* See Volume Thirteenth of the Linnean Transactions, page 617.

† They are about equal to those of a Blackbird, although this Petrel but little exceeds a Swallow in dimensions.

rally very fat and oily, and by the inhabitants of Ferroc and other islands it frequents is sometimes converted into a lamp. For this purpose a wick of cotton, or other material, is drawn through the body, and which continues to burn till the oil becomes exhausted. Instances frequently occur of its being found rather far inland, either dead or in an exhausted and dying state, but the cause of such mortality has not hitherto been satisfactorily accounted for; it may, however, arise from weakness, occasioned either by old age or accidental illness, rendering it unable to contend with the autumnal and wintry blasts, during which period such instances are most frequent; and this is rendered more probable by its being commonly in an emaciated condition. The flight of the Storm-Petrel is remarkably swift, and is equalled by few of the feathered race. It is often seen darting from wave to wave, at intervals dipping its bill into the water as if in search of insects, or picking up food, during which it will stand (as it were) upon the summit of the billow with wings expanded and raised, but is very rarely seen to alight for swimming, and is totally unable to dive, a faculty attributed to it in an eminent degree by some of the earlier writers.

PLATE 103. Fig. 2. Natural size.

General
description.

Bill, from the forehead to the tip, three-eighths of an inch long; black, with the tip much compressed. Head, back, quills, and tail, glossy black. The lower range of wing-coverts brownish-black. Under plumage pitch or brownish-black. Patch behind the thighs, and bar across the upper-tail coverts, white. Legs and feet black, with the tarsus seven-eighths of an inch in length.

FORK-TAILED STORM-PETREL.

THALASSIDROMA BULLOCKII, *Mihi*.

PLATE CIII. FIG. 1.

Procellaria Bullockii, *Flem. Br. Anim.* 1. 136. No. 219.

Procellaria Leachii, *Steph. Shaw's Zool.* 13. 219. pl. 25.

Pétrel de Leach, *Temm. Man. d'Orn.* 2. 812.

THIS Petrel, which is about one-third larger than the preceding, was first discovered at St Kilda, and ascertained to be a distinct species by Mr BULLOCK in 1818, during a tour round the coast of Scotland, principally undertaken with a view to investigate its ornithology. I have, therefore, in imitation of Dr FLEMING, and in justice to the original discoverer, adopted the trivial name of *Bullockii*, instead of that of *Leachii*, bestowed upon it by TEMMINCK in his "Manuel d'Ornithologie." Several of these birds were found by Mr BULLOCK at St Kilda, it being the season of incubation; and subsequent observation has shewn that they annually resort to the island for this particular purpose. They have also been repeatedly found, within a few years past, in various places inland (like the preceding species) in a dead or exhausted state, among which I may mention two in the possession of the Rev. R. HAMMOND of Swaff'ham in Norfolk, one of which was taken in Gloucestershire, and the other found dead upon a warren in the former county. Sir WILLIAM JARDINE also possesses one, taken in a dying state in Dumfriesshire; and Mr ELTON of Redland, near Bristol, informs me that four or five were picked up last winter in that neighbourhood, all in a helpless condition. The habits of this bird are similar to those of the Common Storm-Petrel, with which, notwithstanding its superior size, it has in all probability been often confounded when seen upon wing. It breeds in similar situations, laying a single egg of a large size, rounded shape, and entirely white. It feeds upon ma-

Incuba-
tion &c.
Food.

rine insects, floating mollusca, and other animal matter picked up on the surface of the water, upon which it is never seen actually to alight for repose, but frequently, as it were, stands and runs upon it by the action of its palmated feet and outstretched wings.

PLATE 103. Fig. 1. Represents this bird of the natural size, from a specimen belonging to WILLIAM YARRELL, Esq.

General
description.

Bill black, upwards of half an inch long from the forehead to the tip; much compressed, and shewing an angle upon the lower mandible. Head, neck, and under parts greyish-black, with a tinge of brown upon the abdomen. Back and scapulars deep greyish-black. The lower tier of wing-coverts greyish-white, forming a bar across the closed wings. Quills and tail black, the latter forked. Upper tail-coverts, and patch behind the thighs, white. Wings, when closed, reaching a little beyond the tail. Legs and feet black, with the tarsus nearly one inch in length.

FINIS.

EDINBURGH:

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